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ABSTRACT

Over a four year period, the Continuation Education System Development Project will develop a practical instructional system capable of continuous identification and efficient response to the critical instructional needs of individual continuation high school students, or those who drop out or are pushed out, in La Puente, California. The first part of this report on student performance requirements in employment situations includes the procedures used, identification of data needed, data sources, data collected, and analysis procedures. A critique of these procedures is given. In the next part, the findings as related to education requirements, ability factors, and worker trait factors are discussed. In the summary of findings, requirements including the need for some high school education and vocational training is noted. Civil service, and jobs in elemental and machine work categories seem most suited to these students. Data tables are provided. (See CG 004 283, CG 004 401, CG 004 404, CG 004 407, and CG 004 409). The research reported herein was funded under Title III of the Elementary and Secondary Education Act. (Author/KJ)

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CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT

LEON EAST
project director

TECHNICAL REPORT

1.4

STUDENT PERFORMANCE REQUIREMENTS: EMPLOYMENT SITUATIONS

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LA PUENTE UNION
HIGH SCHOOL DISTRICT
La Puente, California

1968

ED034218

Continuation Education
System Development Project

Technical Report 1.4

STUDENT PERFORMANCE REQUIREMENTS: EMPLOYMENT SITUATIONS

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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La Puente Union High School District
La Puente, California
1968

FOREWORD

The CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT is operated by the La Puente Union High School District according to the terms of a grant award authorized by Title III of the Elementary and Secondary Education Act of 1965 (Public Law 89-10).

Over a four year period, September, 1967 through August, 1971, the PROJECT will develop a practical instructional system capable of continuous identification and efficient response to the most critical instructional needs of individual continuation high school students in La Puente.

Continuation high school students in La Puente are those who the traditional system has been unable to accommodate or who have been unable to accommodate the traditional system. Their usual label is "pushout" or "dropout."

The first project year (1967-68) has been spent identifying the instructional needs of these students.* During

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*Technical Reports in this phase of the study:
(1.1) Present Student Characteristics
(1.2) Student Performance Requirements: Military Situations
(1.3) Student Performance Requirements: Other Educational Situations
(1.4) Student Performance Requirements: Employment Situations
(1.5) Performance Adequacy for Home and Community Living
(1.6) Operational Limits
(1.7) Instructional Needs

year two, an instructional program will be designed to meet those needs. Year three will see implementation and tryout of subsystems. Year four will provide for full system tryout with transfer of all functions to the permanent school staff.

Throughout the Project, system analysis and other modern management control and planning techniques will be employed. It is hoped that this new problem solving technology of the defense and aero-space industries can be applied as well to the problems of education.

It is the mission of the PROJECT not only to solve a particular set of problems in La Puente, but to provide a problem solving model for other school districts with similar conditions. Consequently, an effort has been made to describe procedures in such detail that they can be used as guidelines by others.

If further information or interpretation can be provided the PROJECT staff will be pleased to respond to your inquiries.

La Puente, California
December, 1968

LEON EAST
PROJECT DIRECTOR

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PROCEDURES

On January 15, the task was assigned to identify the behavior characteristics required for success in those employment situations where continuation high school students are most likely to find themselves upon graduation.

I. IDENTIFICATION OF DATA NEEDED AND DATA SOURCES

The identification of data needed began the week of January 15. The first step was to refine the term "employment situations" into more useable categories. Inquiries directed to Dr. Gaylor Pitts, Area Analyst for the State of California, Department of Employment, Los Angeles, resulted in consultations with Mr. Donald Stonebraker, Occupational Analyst in the Department of Employment's West Covina office. As a result of discussions with these experts and others, two major areas of investigation were selected: business and industry and civil service.

Due to the constraints of time and manpower, investigation of job opportunities in business and industry was limited to the local community labor market. The profile below indicates a range of job opportunities in this area which is sufficiently representative of the total labor market as to indicate the "real-world" of employment.

According to Department of Employment statistics, employment in business and industry in this community's labor market is as follows:

Manufacturing (durable goods)	25,800
Transportation, Communication, and Utilities	3,300
Wholesale Trade	3,900
Retail Trade	20,000
Service	16,000
Government	14,300

Industrial lists from the Chambers of Commerce of West Covina, El Monte, Baldwin Park, Covina, City of Industry, La Puente, Rosemead, and South El Monte were acquired. Out of the 5,000 employers in this area, a random sample of 493 was selected to be surveyed.

Most Valley High School students come from families of low socio-economic status and immediate employment is often a high priority item. A Valley High School graduate is likely not to have a high school diploma and usually has only minimal vocational skills. According to the Department of Employment, his best opportunity for employment is in unskilled and semi-skilled categories. Business and industries do the most hiring in this type of labor market. Data was, therefore, gathered on job opportunities available in business and industry for Valley High School graduates with the following characteristics:

male/female, eighteen years or older:

1) without high school diploma; without vocational-technical training.

2) without high school diploma; with vocational-technical training

3) with high school diploma; without vocational-technical training

4) with high school diploma; with vocational-technical training.

According to the Department of Employment, Research and Statistics Bulletin, September, 1966, the total employment by industry in the local labor market is 99,600. Of these jobs, 14,300 are in government. Civil service jobs, therefore, are of sufficient number to merit separate investigation. Job classifications in civil service were identified in each of the following categories:

Section 1: Classes requiring less than high school education

Section 2: Classes requiring high school graduation

Section 3: Classes requiring specialized training at the high school level.

Upon recommendation by the State Department of Employment, city, county, state, and federal offices were contacted regarding employment opportunities in civil service. As confirmed by the local Department of Employment, job opportunities listed by the State Personnel Board are representative of similar positions in the other branches of civil service employment. The addresses of key personnel are as follows:

State Personnel Board
Statewide Civil Service
107 South Broadway, Room 1021
Los Angeles, California 90012
Harry E. Maynard, Assistant Personnel Analyst

California State Personnel Board
801 Capitol Mall
Sacramento, California
John F. Fisher, Executive Officer

II. DATA COLLECTION AND ANALYSIS PROCEDURES

On February 23, the directing staff member began plans for data collection. An outline of the approach was presented to management on February 27 and was approved February 29.

The Business and Industry Job Survey (see Table I) was developed by March 12 and piloted the week of March 18 with:

Mr. Frank M. Kent, Personnel Manager
Vita-Pak Citrus Products
707 North Barranca
Covina, California

Mr. Tom Johnson, Director
La Puente Adult School
15359 East Proctor Avenue
City of Industry, California

Mr. Donald Stonebraker, Occupational Analyst
State of California Department of Employment
933 South Glendora Avenue
West Covina, California

Favorable reactions to the survey were expressed by these men; and some specific suggestions made by Mr. Johnson and Mr. Kent were incorporated into the design of the final survey.

On March 5, the California State Personnel Board in Los Angeles was contacted. Mr. Harry E. Maynard agreed to forward their publication, Trainee and Entry Level Job Classifications in California State Civil Service, for our investigation. Mr. Maynard further indicated that specifications for each job listed could be obtained from the California State Personnel Board in Sacramento.

On March 20, the publication was received. Job classifications were listed in eight categories; those jobs in Sections one, two, and three were extracted for our purposes. (See Table II, infra.) Section one included jobs requiring less than high school education; Section two included jobs requiring high school graduation; and, Section 3 jobs requiring specialized training at the high school level. On March 22, a letter was mailed to the state requesting specifications for those Section one, two, and three jobs extracted.

By March 25, the master list of 493 businesses and industries was completed and envelopes to each of these firms typed. By April 1, copies of the Business and Industry Job Survey were mailed to these firms.

On March 26, the directing staff member began a programmed instruction unit on the use of Volumes I and II of the Dictionary of Occupational Titles (DOT) (Manpower Administration: U.S. Department of Labor, 1965). For each job classification found in Volume I of the DOT, there is in Volume II pertinent information regarding work performed, worker requirements, training and methods of entry. The ability to understand the coding system was essential to the cross-referencing of the data needed to validate findings.

As the Business and Industry Job Survey forms were returned, each completed form was assigned a number and transferred to the mailing list beside the company name. On April 16, all job opportunities reported in the survey were put in alphabetical order on a master list to aid the staff in the classification and coding task.

On April 2, a package of forty-six individual job specifications in California State Civil Service was received from the State Personnel Board in Sacramento. On April 3, the staff began to read and analyze the specifications for each job in preparation for extracting the minimum qualification requirements. Civil service jobs were correlated with entry level jobs reported in business and industry through use of the Dictionary of Occupational Titles.

The employers had listed the jobs available in each of the following categories:

male/female, eighteen years or older:

1) without high school diploma; without vocational training

2) without high school diploma; with vocational training

3) with high school diploma; without vocational training

4) with high school diploma; with vocational training.

Their responses were analyzed to determine how many jobs were available, and of what type, for each of these categories.

Using Volume II of the Dictionary of Occupational Titles, the area of work for each of the jobs listed was determined. The jobs indicated by employers in business and industry were distributed in only seven of these general categories out of a possible twenty-two. Civil service jobs were more broadly distributed, dividing into thirteen areas of work.

The General Educational Development levels of ability in language, mathematics and reasoning were obtained for each of the areas of work. These were entered on charts.

Areas of work are further subdivided into worker-trait groupings. These groupings give you information on the kind of work performed, worker requirements, clues for relating applicants and requirements, and training and methods of entry. The jobs in each area of work were distributed into the appropriate worker trait group so that the above information could be derived for each job.

Representative jobs from each of these worker trait groups were selected. From the DOT, the national norms of GATB scores for each job were obtained. These scores were entered on charts which compared them with the scores received by students at Valley High School.

Other charts displaying educational requirements for each of these representative jobs were produced. The information for these charts was obtained from the DOT.

All of the findings were documented and submitted to the editorial staff on August 16, 1968.

CRITIQUE OF PROCEDURES

The task of identifying the performance requirements required of continuation high school students for entry into employment situations was accomplished through the combined efforts of Project staff, consultants and the California Department of Employment.

Although it would have been better to investigate job sources in the entire Los Angeles County area, limitations of time and money made it more practical to confine this investigation to La Puente and surrounding areas. In retrospect, it is felt that limiting the investigation to an economically depressed area (mean family income, $4,000) in effect, forces any educational objectives based on this data to be limited to occupational choices of a return to this or another low income level community. It is, therefore, recommended that any curriculum planning based on the findings in this section also include more data from the Los Angeles county area where a wider variety of better paying jobs are available.

It is felt that the Business and Industry Job Survey could have been simplified to read: "List those entry level jobs in your firm for which a high school graduate and/or non-graduate could be considered." The design of the survey form did not prevent the collection of meaningful data. Because of the open-endedness of the survey form, the responses of employers were often difficult to analyze in a systematic and meaningful way. Project staff at this time believes that the survey should have been sent to many more than 500 employers in the area. Also, follow-up procedures for those employers who did not respond to the first mailing should have been initiated.

Additional information which would have been valuable included the number of each of the jobs available in a particular firm, the entry level salary and opportunities for advancement.

The directing staff member of this section took a programmed instruction course encompassing both volumes of the Dictionary of Occupational Titles (DOT). This proved to be of value in correlating various occupational data. It is strongly recommended however, that anyone attempting a similar type of investigation confine the use of the DOT to a source of additional information rather than as a source of structure for the data. Because the DOT is a highly structured, detailed and informative reference, there is a strong tendency to "lose" the primary data in this wealth of secondary and less relevant information.

FINDINGS

This section describes those performance requirements continuation high school students must meet in employment situations. The local labor market has been surveyed in order to ascertain what jobs are available to continuation students at various levels of academic achievement and training.

Available jobs were further classified, using the Dictionary of Occupational Titles (DOT), into major areas of work, and into worker trait groups within these areas of work.

The jobs available in business and industry and in civil service are described by the: a) educational requirements and training; b) ability factors related to the specific jobs listed; and, c) worker trait groups corresponding to the specific jobs listed.

I. EDUCATIONAL REQUIREMENTS

A. Business and Industry

Data in this section was derived from the Business and Industry Job Survey and the Dictionary of Occupational Titles. Selected companies in the La Puente area were asked to indicate job categories within their organization for which applicants with various degrees of education and training would be considered. Four major conditions were indicated. They were: 1) males/females without high school diploma or vocational training; 2) males/females with high school diploma but without vocational training; 3) males/females without high school diploma but with vocational training; and, 4) males/females with high school diploma and vocational training.

The results indicated that 50% of the employers would be unwilling to hire males in condition one, and 75% of the employers would be unwilling to hire females in condition one. Job categories were primarily janitorial, general cleanup and manual labor of various sorts, with some mention of trainee positions in trades such as carpentry for the males. (See Figure 1 for complete job listing.)

In condition two, 25% of the employers stated that no jobs would be available for males, and 50% said there were none for females. Available jobs for males with this background were primarily various trainee positions; jobs for females almost always required at least a minimum ability to type. (See Figure 2 for complete job listing.)

Males and females without high school diplomas but with vocational training (condition three) would have a greater variety of jobs available to them according to La Puente employers, but would still be excluded from between 25 - 50% of the available jobs. Employers indicated

Figure 1

MALES/FEMALES WITHOUT HIGH SCHOOL DIPLOMA OR VOCATIONAL TRAINING

MALES

Shop Helper
Packer
Lineman
Laborer
Truck Driver
Pipe Layer
Spreader
Warehouseman
Clean-up Boy
Maintenance
Delivery
Apprentice Mechanic
Apprentice Electrician
Apprentice Machinist
Machine Tender
Bus Boy
Sales Trainee
Machine Operator
Shipping and Receiving
Service Station Attendant
Box Boy
Sweeper
Janitor
Machine Shop Trainee
Fork Truck Driver
Optical Grinder Trainee
Sander
Wrapping and Masking
Helper, General
Apprentice Sander
Foundry Laborer

FEMALES

Assembler
Table Work or Inspection
Bundling
Hand Packager
Waitress
Receptionist
Clean-up Girl
Punch-Press Operator
Shop Helper
Optical Grinder Trainee
Typist
Account-Clerk
File Clerk

Figure 2

MALES/FEMALES WITH HIGH SCHOOL DIPLOMA BUT WITHOUT VOCATIONAL TRAINING

MALES

Shop Helper
Packer
Lineman
Laborer
Carpenter
Truck Driver
Pipe Layer
Spreader
Sewing Machine Mechanic
Cutter
Welder
Clerk
Clean-up Boy
Silk Screen Printer
Cut and Sew Operator
Maintenance
Warehouseman
Delivery
Apprentice Mechanic
Apprentice Electrician
Apprentice Machinist
Metal Worker
Machine Operator
Metal Slitter Helper
Roustabout
Mechanic
Offset Printing
Metal Shearer Helper
Shipping & Receiving Clerk
Sales Trainee
Vehicle Maintenance
Drill Press Operator
Punch Press Operator
Compressor Serviceman
Stock Clerk
Order Clerk
Lab Assistant (X-ray)
Machine Shop Helper
Tool and Die Apprentice
Set-up Man Helper
Tool Crib Attendant
Service Station Attendant
Painters Helper
Apprentice Sander
Apprentice Stock Preparation
Apprentice Glue-up
Apprentice Machine Carver
Pipe Fitter

FEMALES

Assembler
Sewing Machine Operator
Secretary
Order Taker
File Clerk
Key Punch Operator
Typist
Switchboard Operator
Receptionist
Office Clerk
Sales Trainee
Catalog Assembler
Verifax Operator
X-ray Technician
Lab Assistant
Account-Clerk
Masker
Messenger Service
Punch Press Operator

that preferred training for males was machine shop, drafting and auto shop, while for females, typing and filing skills were essential for employment. (See Figure 3 for complete job listing.)

Not too surprising is the fact that employers felt that individuals with both high school and vocational training had the best chance of being employed. Fifteen percent (15%) of the employers had no job available for males in this condition, and 25% had none for females. A variety of jobs were available for males in various trades as well as many trainee positions with opportunities for advancement to more highly skilled and higher paying jobs. Jobs for females were primarily in the areas of general office and secretarial. Employers indicated that training in office skills was essential for girls. Typing, filing and bookeeping skills were recommended. (See Figure 4 for a complete job listing.)

Specific jobs indicated by employers were categorized according to seven major areas of work and these were then subdivided into worker trait groups within the seven general areas. The Dictionary of Occupational Titles was used for this operation. From the worker trait groups minimum educational requirements for a representative sample of the available jobs was established. The results may be seen in Figure 5.

Figure 3

MALES/FEMALES WITHOUT HIGH SCHOOL DIPLOMA BUT WITH VOCATIONAL TRAINING

MALES

Shop Helper
Packer
Lineman
Laborer
Carpenter
Truck Driver
Pipe Layer
Spreader
Warehouseman
Material Cutter
Silk Screen Printer
Maintenance
Delivery
Food Preparation
Sales Trainee
Apprentice Mechanic
Apprentice Electrician
Apprentice Machinist
Machine Operator
Parts Stock Clerk
Order Clerk
Process Operator
Typist
X-ray Technician
Lab Assistant
X-ray Assistant
Shipping & Receiving Clerk
Box Boy
Sweeper
Janitor
Service Station Attendant
Clerical
Apprentice Mold Maker
Machinist Trainee
Mold Cavity Polisher Trainee
Optical Trainee
Painter's Helper
Job Order Desk
Apprentice Sander and Helper
Refinery Worker
Roustabout
Stock Clerk

FEMALES

Assembler
Bundler
Table Work and Inspection
Order Taker
Bookkeeper
Key Punch Operator
Receptionist
File Clerk
Typist
Clerk Typist
Office Clerk
Stenographer
X-ray Technician
Lab Assistant
X-ray Assistant
Practical Nurse
Shop Superintendent
Operator Injection Moulding Machine
Optical Trainee
Wrapping and Masking
Telephone Operator
Sales
Messenger

Figure 4

MALES/FEMALES WITH HIGH SCHOOL DIPLOMA AND VOCATIONAL TRAINING

MALES

Shop Helper
Packer
Lineman
Laborer
Carpenter
Truck Driver
Pipe Layer
Spreader
Cutter
Mechanic
Welder
Warehouseman
Order Taker
Order Filler
Receiver
Clean-up Boy
Hand Cutter Operator
Silk Screen Printer
Shipping and Receiving Clerk
Salesman
Maintenance
Delivery
Food Preparation
Journeyman
Apprentice Mechanic
Apprentice Electrician
Apprentice Machinist
Metal Worker
Machine Operator
Metal Slitter Helper
Metal Shearer Helper
Compressor Serviceman
Barber
Vocational Nurse
X-ray Technician
Lab Assistant
File Clerk
Punch-Press Operator
Drill-Press Operator
Assembler
Machine Shop Helper
Set-up Man Helper
Tool Crib Attendant
Service Station Attendant
Apprentice Mold Maker
Mold Cavity Polisher Trainee
Optical Trainee
Pipe Fitter
Painter's Helper
Apprentice Sander
Apprentice Glue-up
Apprentice Machine Carver

FEMALES

Senior Clerk
Steno Clerk
Secretary
Accounting Clerk
Assembler
Floor Girl
Clerk
Order Taker
Salesman
Sewing Machine Operator
Bookkeeper
Optics Trainee
Typist
File Clerk
Switchboard Operator
Receptionist
Billing Clerk
Clerk Typist
Operator Injection Molding Machine
Wrapper and Masker
Apprenticeship
Punch-Press Operator
Key-Punch Operator

Figure 5

EDUCATIONAL REQUIREMENTS OF A REPRESENTATIVE SAMPLE OF AVAILABLE JOBS IN THE LA PUENTE AREA*

Job Title	Educational Requirements
Radiologic Technician	Minimum of two years beyond high school at a junior college, hospital school, or four-year courses.
Secretary	Broad educational background. Completion of business course in high school or commercial college. Additional education beyond high school often required for responsible positions.
Stenographer	Completion of high school typing, shorthand and other business courses. Majority of workers are high school graduates.
Typist	Majority are high school graduates. Knowledge of typing and business methods mandatory.
File Clerk	Graduation from high school with commercial course work including elementary clerical skills.
Duplicating Machine Operator	Craft courses in high school, apprenticeship programs.
Bookkeeper	Graduation from high school and business school with average or superior grades in arithmetic. Knowledge of materials and machines.
Key Punch Operator	Graduation from high school or business school minimum. Specialized training sometimes required. General knowledge of equipment usually sufficient.

Figure 5
(continued)

Job Title	Educational Requirements
Shipping & Receiving Clerk	Completion of some high school with vocational training in mechanical drawing, blueprint reading and shop mathematics.
Messenger	Most employers prefer some high school education.
Telephone Operator	Clerical courses in high school; on-the-job training.
Receptionist	High school education - some commercial course work preferred.
Salesman	Minimum high school education; may require additional night school courses or a college background.
Bus Boy - Floor Girl	No formal education required. Some employers prefer two-three years of high school.
Cook	High school home economics course; cooking schools require completion of eighth grade for entry.
Barber	Completion of a course in an accredited school of cosmetology or formal work in beauty culture.
Practical Nurse	High school graduation generally required.
Porter - Charwoman - Cleaner	No previous training or education.
Injection Moulding Operator	At least one machine shop course in high school; apprenticeship.
Mixing-Machine Operator	At least one machine shop course in high school.

Figure 5
(continued)

Job Title	Educational Requirements
Machinist	Machine shop courses in high school. Ability in mathematics. Apprenticeship program.
Sewing Machine Operator	High school industrial arts or vocational education courses; two to six years apprenticeships.
Cloth Grader	Completion of some high school with vocational training in mechanical drawing, blueprint reading and shop mathematics.
Polisher	Craft courses in high school. Apprenticeship programs.
Truck Driver, Heavy, Light	None
Service Station Attendant	None

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* Taken from the Dictionary of Occupational Titles.

Since employers were not asked to indicate any jobs requiring education beyond the high school level, it is rather surprising to note that according to standards established by the Department of Employment, some jobs do indeed require college course work. From this it might be inferred that some employers in the La Puente area are willing to provide training which would normally be received in a formal educational institution. (It should be mentioned, however, that when extensive training was provided by the employer, the employer also commented that great care was taken to select only those applicants who would be extremely likely to succeed in their program.)

In general, it may be seen that very few jobs had no educational requirements. Those jobs which had none, had, instead, physical requirements such as strength or good motor coordination which served to delimit them as effectively as the educational requirements in other areas.

B. Civil Service

Data in this section was derived from the Trainee and Entry Level Job Classifications in California State Civil Service, information received from the California State Personnel Board, and the Dictionary of Occupational Titles. Job classifications in civil service were identified in each of the following categories:

1) Jobs requiring less than high school education

2) Jobs requiring high school graduation

3) Jobs requiring specialized training at the high school level.

Results indicate that many civil service jobs are available for those with a high school education. Sixty-two percent (62%) of the jobs require a high school diploma or its equivalent. A ninth to tenth grade educational level is required for about 6% of the jobs, and an eighth grade level for 11% of the jobs. No educational requirements were listed for 16% of the jobs in civil service. (See Figures 6 through 8.)

Specific jobs indicated by civil service were categorized according to thirteen major areas of work. These were subdivided into worker trait groups within the thirteen general areas. From the worker trait groups, minimum educational requirements for a representative sample of the available jobs were established. The results may be seen in Figure 9.

Figure 6

CIVIL SERVICE JOBS REQUIRING LESS THAN HIGH SCHOOL EDUCATION

Asphalt Ironer and Raker
(Casual Employment)

Bindery Assistant

Car Washer

Elevator Operator

Exposition Assistant I

Fish and Wildlife Seasonal Aid

Forest Firefighter
(Seasonal)

Laborer

Laundry Assistant

Pedestrian Crossing Guard

Seasonal Agricultural Aid

Watchman

Figure 7

CIVIL SERVICE JOBS REQUIRING
HIGH SCHOOL GRADUATION

Archeological Aid (Seasonal)

Cook I

Attendant, Resident Schools

Book Repairer

Copyholder

Duplicating Machine Operator I

Engineering Aid I

Food Service Assistant I

Forest Fire Lookout

Harbor Policeman

Heavy Equipment Mechanic Apprentice

Clerk I

Clerk-Typist I

Key Data Operator Trainee

Laboratory Assistant I

Museum Guard

Park Aid (Seasonal)

Psychiatric Technician Trainee

State Policeman

State Traffic Officer

Survey Interviewer

Tabulating Machine Operator Trainee

Figure 8

CIVIL SERVICE JOBS REQUIRING SPECIALIZED TRAINING AT THE HIGH SCHOOL LEVEL

Assistant Seamstress

Dispatcher-Clerk

Drafting Aid I

Employment Community Worker

Garage Attendant

Highway Equipment Painter Helper

Highway Landscape Maintenance Man

Highway Maintenance Man I

Stenographer I

Lifeguard

Lifeguard (Seasonal)

Mechanic's Helper

Printing Apprentice

Figure 9

CIVIL SERVICE
EDUCATIONAL REQUIREMENTS OF A REPRESENTATIVE SAMPLE OF AVAILABLE JOBS IN THE LA PUENTE AREA

Job Title	Educational Requirements
Drafting Clerk	Graduation from a vocational or technical high school. Many require additional training at a two-year institution.
Agricultural Aid	High school and post high school courses. Six months to one year on-the-job training.
Messenger	Some high school education. Limited demonstration on the job.
Elevator Operator	May require little formal education. Some employers require two to three years high school education.
Bindery Worker	High school machine shop course. Six months on-the-job training.
Tabulating Machine Operator	Apprentice programs.
Laborer, General	No educational requirements.
School Crossing Guard	No educational requirements.
Automobile Mechanic's Helper	Craft courses in high school.
Cook, Mess	Eighth grade education for entry into cooking school; high school graduation with home economics courses.
Job Printer Apprentice	Apprenticeship-two to six years. Training in vocational trade or technical schools shortens this period.

Figure 9
(continued)

Job Title	Educational Requirements
Clerk, General	High school courses in bookkeeping and typing.
Chainman	School shop courses.
Timekeeper	Graduation from high school and business school with average or superior grades in arithmetic.
Stenographer	Majority are high school graduates with business courses, typing and shorthand often necessary.
Key Punch Operator	Graduation from high school or business school with commercial coursework.
Clerk-Typist	Graduation from high school with completion of commercial courses.
Psychiatric Aid	None indicated.
Patrolman	High school education. Sometimes college required.
Guard	Rigid training and tests.
Archeological Assistant	Vocational training in high school or vocational school plus one to four years on-the-job training.
Survey Worker	Often requires some college and on-the-job training.
Social Worker	College degree.

II. ABILITY FACTORS

A. Business and Industry

Data in this section was derived from the worker trait groups in the Dictionary of Occupational Titles which were selected on the basis of employer listings of available jobs in the La Puente area. A listing of representative jobs in each of the worker trait groups in seven general areas of work were compiled. (See Figure 10.)

Figure 10

DICTIONARY OF OCCUPATIONAL TITLES
WORKER TRAIT GROUPINGS

General Area	Worker Trait Group	Specific Jobs Indicated
1. Crafts		
	Manipulating	
		Duplicating Machine Operator Arc Welder Floor Girl Grinder, Hand Polisher Roustabout Silk Screen Printer

Figure 10
(continued)

General Area	Worker Trait Group	Specific Jobs Indicated
Crafts	Cooking and Related Work	Cook
	Craftsmanship and Related Work	Lineman Carpenter Maintenance Man Pipe Fitter Sewing Machine Operator Spindle Carver
2. Clerical	Classifying, Filing and Related Work	File Clerk General Office Clerk
	Inspecting and Stock Checking	Cloth Grader Parts/ Tool Clerk Shipping & Receiving Clerk
	Paying and Receiving (Banks and other establishments)	Receptionist
	Secretarial and Related Work	Secretary
	Stenographic and Related Work	Stenographer
	Typesetting, Reproducing and Related Machine Work	Key Punch Operator
	Typing and Related Recording	Typist
	Switchboard Service	Telephone Operator
	Computing and Related Recording	Bookkeeper

Figure 10
(continued)

General Area	Worker Trait Group	Specific Jobs Indicated
3. Elemental Work	Handling	Porter/Charwoman/Cleaner
		Assembler, Production
		Electrician, Helper
		Foundry Worker
		Glueman
		Handcutter/Spreader
		Laborer, General
		Laborer, Stores
		Machine Helper
		Masker
		Packager, Hand
		Painter's Helper
		Stock Preparation Clerk
4. Machine Work	Driving - Operating	Truck Driver, Heavy
		Delivery Man
		Industrial--Truck Operator
		Truck Driver, Light
	Tending	Mixing-Machine Operator
		Air Compressor Operator
		Refinerman
	Set-up And/Or All-Round Machine Operating	Machinist
		Machine Set-up Operator/ Job Setter
		Tool & Die Maker Apprentice
	Operating--Controlling	Injection Moulding Machine Operator
		Cutter Operator
		Drill Press Operator
		Offset Pressman
		Punch Press Operator

Figure 10
(continued)

General Area	Worker Trait Group	Specific Jobs Indicated
5. Medicine & Health		
	Child and Adult Care	Practical Nurse
	Nursing, X-Ray and Related Services	Radiologic Technologist
6. Merchandising		
	Demonstration and Sales Work	Salesman/Saleswoman
7. Personal Service		
	Beautician and Barbering Services	Barber
	Miscellaneous Customer Service Work	Automobile Service Station Attendant
	Miscellaneous Personal Service Work (Food Serving, Portering, Valeting and Related Activities)	Bus Boy/Floor Girl
	Ushering, Messenger Service, and Related Work	Messenger

Figures 11 through 19 represent the abilities employees demonstrate in representative job groupings based on the national averages taken from the Dictionary of Occupational Titles. Percentage scores are based on the representative group's performances on the General Aptitude Test Battery

(GATB). Also included in Figures 11 through 19 are comparisons with the Valley High School population's scores on the GATB. The shaded areas represent the middle 80% of the student population, ranging from the tenth percentile to the ninetieth percentile. The double shaded area represents the middle 50% of the Valley High School population, ranging from the twenty-fifth percentile to the seventy-fifth percentile.

On the general intelligence score, the middle 80% of the Valley High School population would not qualify for the following jobs: Radiologic Technician; Secretary; Bookkeeper; Receptionist; Salesman; and, Sewing Machine Repairman. (See Figure 11.) The only job that the lower 50% of the population would qualify for was that of porter, charwoman and cleaner.

On the verbal ability score, only the upper quartile qualifies for the majority of jobs. (See Figure 12.) Very few Valley students have the verbal ability necessary to be a radiologic technician, a secretary, stenographer or a receptionist.

There are eleven jobs listed for which 75% of the population do not qualify because of their lack of numerical ability. (See Figure 13.) Conversely, fourteen of the jobs listed could be obtained by 75% of the population on the basis of their numerical ability.

FIGURE 11

G SCORE

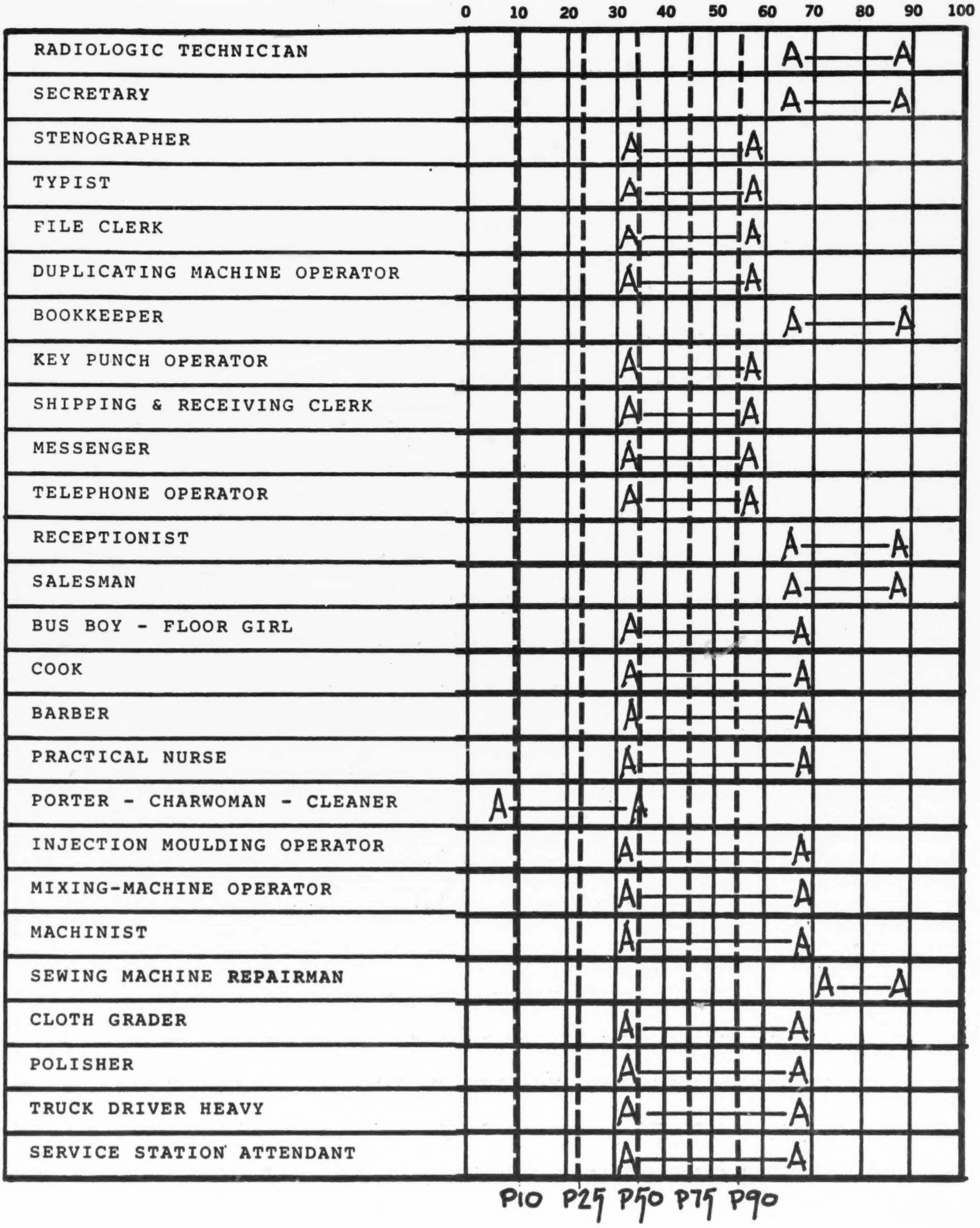


FIGURE 12

VERBAL

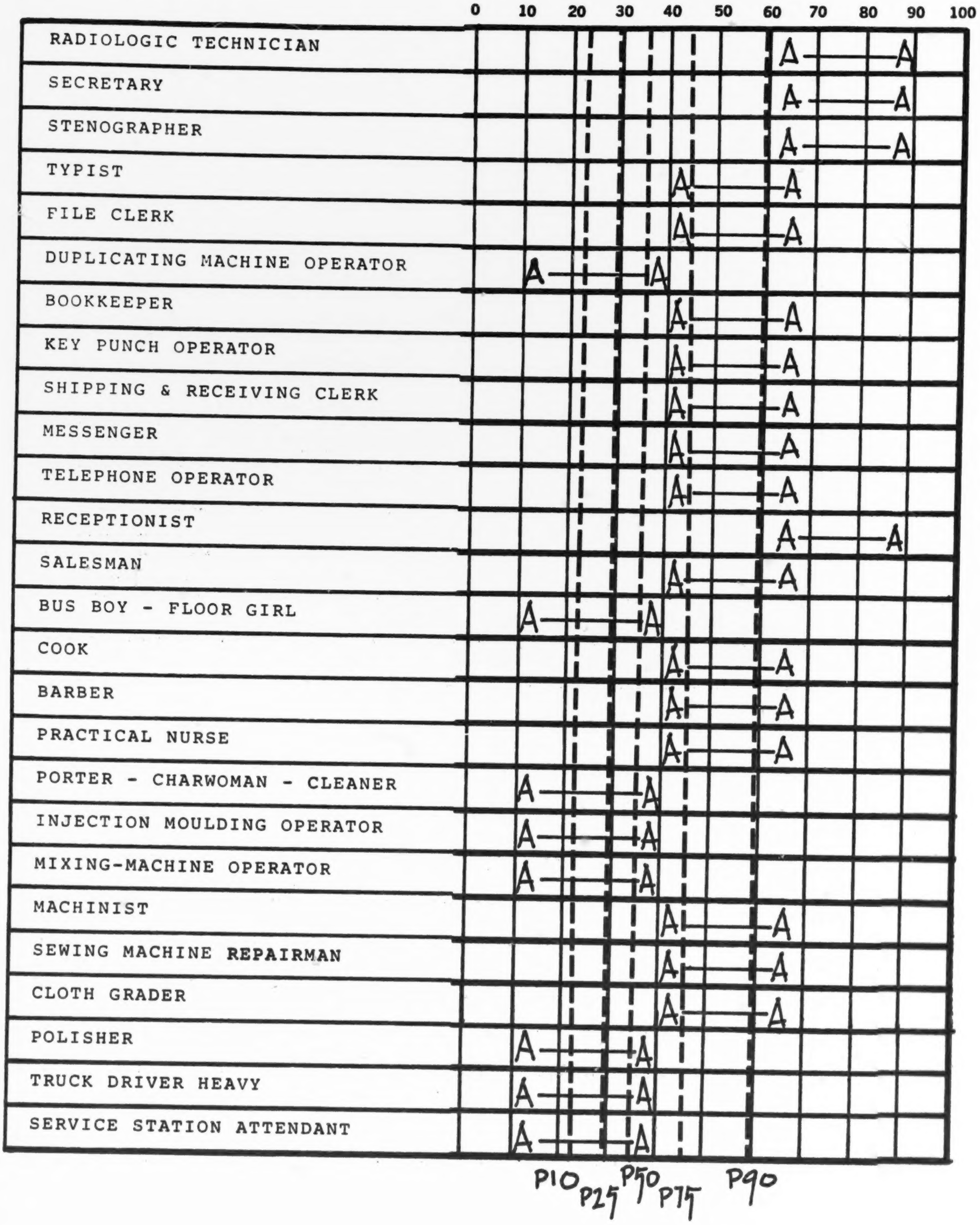
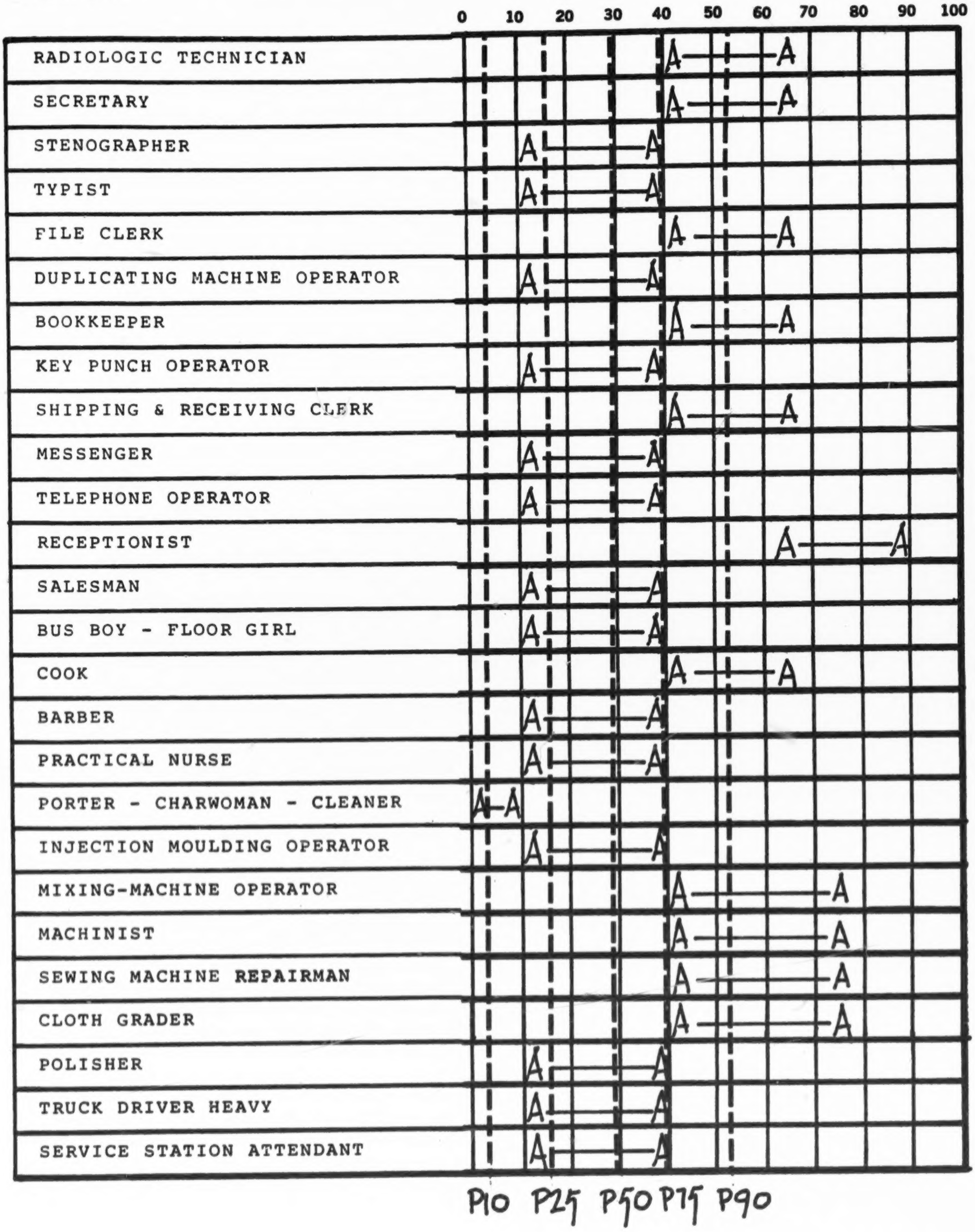


FIGURE 13

NUMERICAL



On the spatial score, only the upper quartile could qualify for radiologic technician, machinist, and sewing machine repairman. (See Figure 14.) The lower quartile of the population could qualify for the majority of the jobs listed.

Ninety percent (90%) of the student population do not qualify for the jobs of secretary, stenographer, bookkeeper, key punch operator, and receptionist on the basis of their clerical ability scores. (See Figure 15.) Most of the jobs are available to those who fall in the lowest quartile on this score.

The manual dexterity of the top 50% of the population enables them to obtain most of the jobs listed. (See Figure 16.) Only the jobs of receptionist and machinist are excluded from 90% of the population.

On the form perception score, 75% of the population do not qualify for secretary, stenographer, key punch operator, barber and machinist. (See Figure 17.) The rest of the jobs are within the ability of the majority of Valley students when the criteria of form perception is used.

The upper 50% of the population qualify for all but two of the jobs listed, according to their score showing finger dexterity. (See Figure 18.) Those two jobs are receptionist and barber.

FIGURE 14

SPATIAL

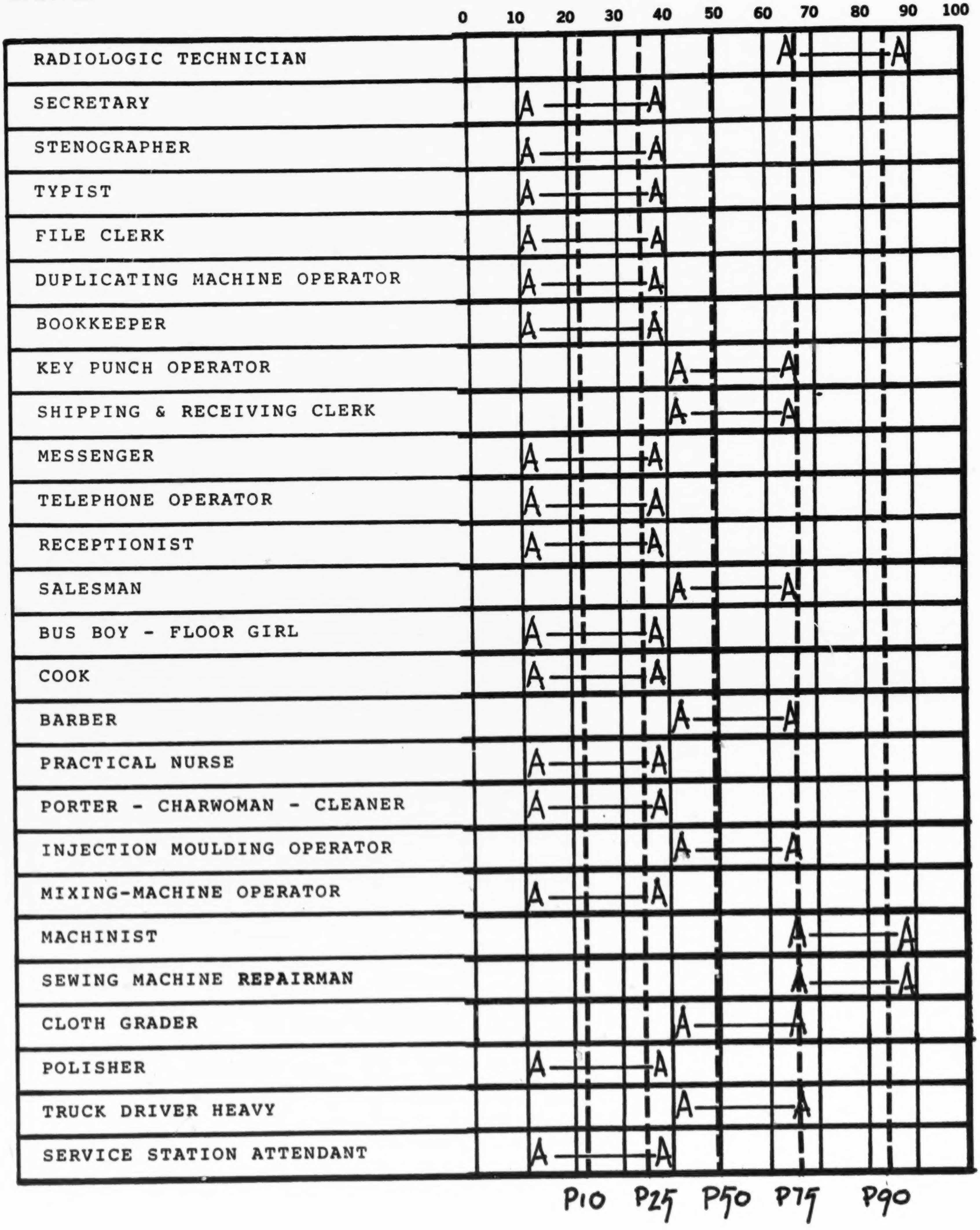


FIGURE 15

CLERICAL (Q)

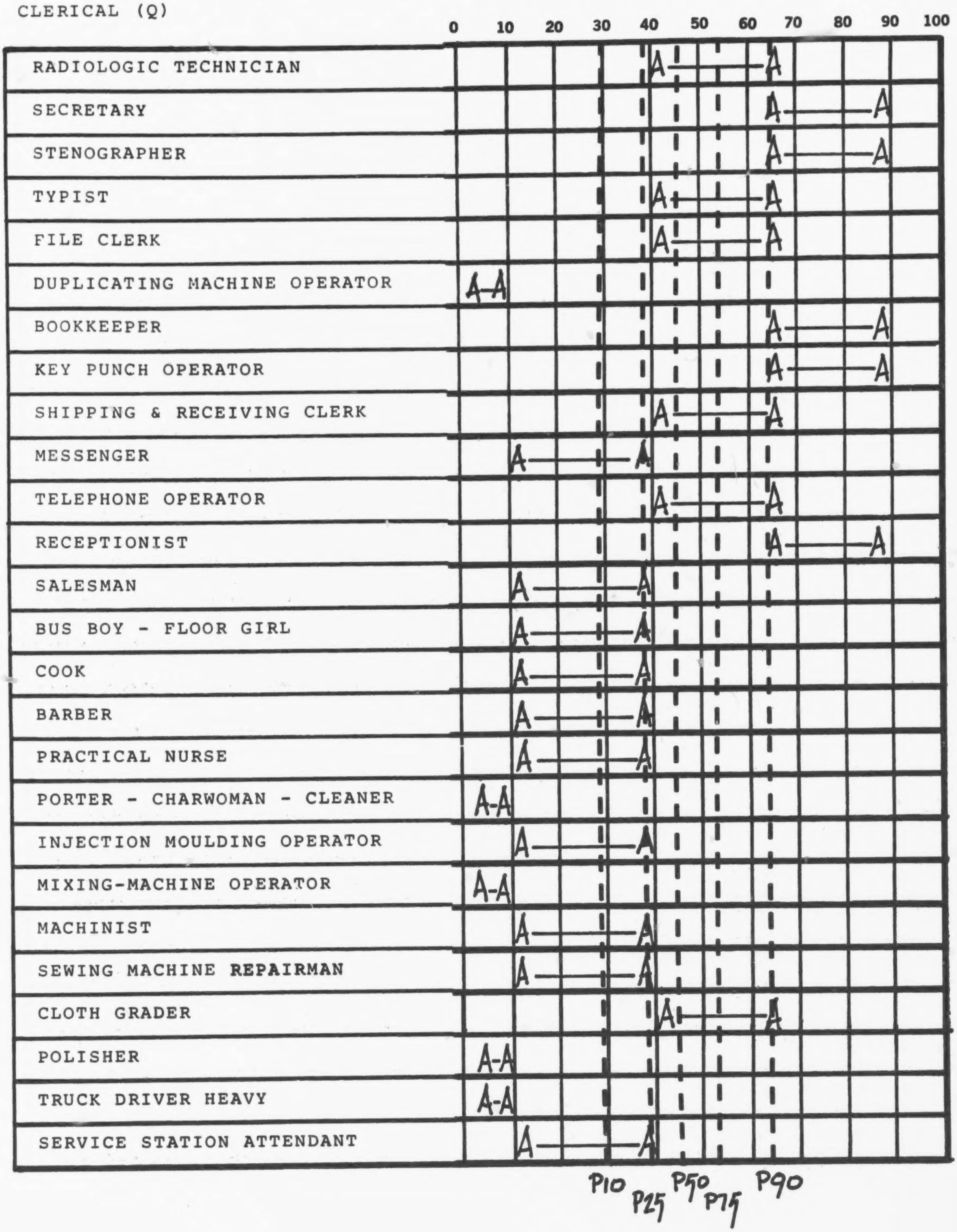


FIGURE 16

MANUAL DEXTERITY

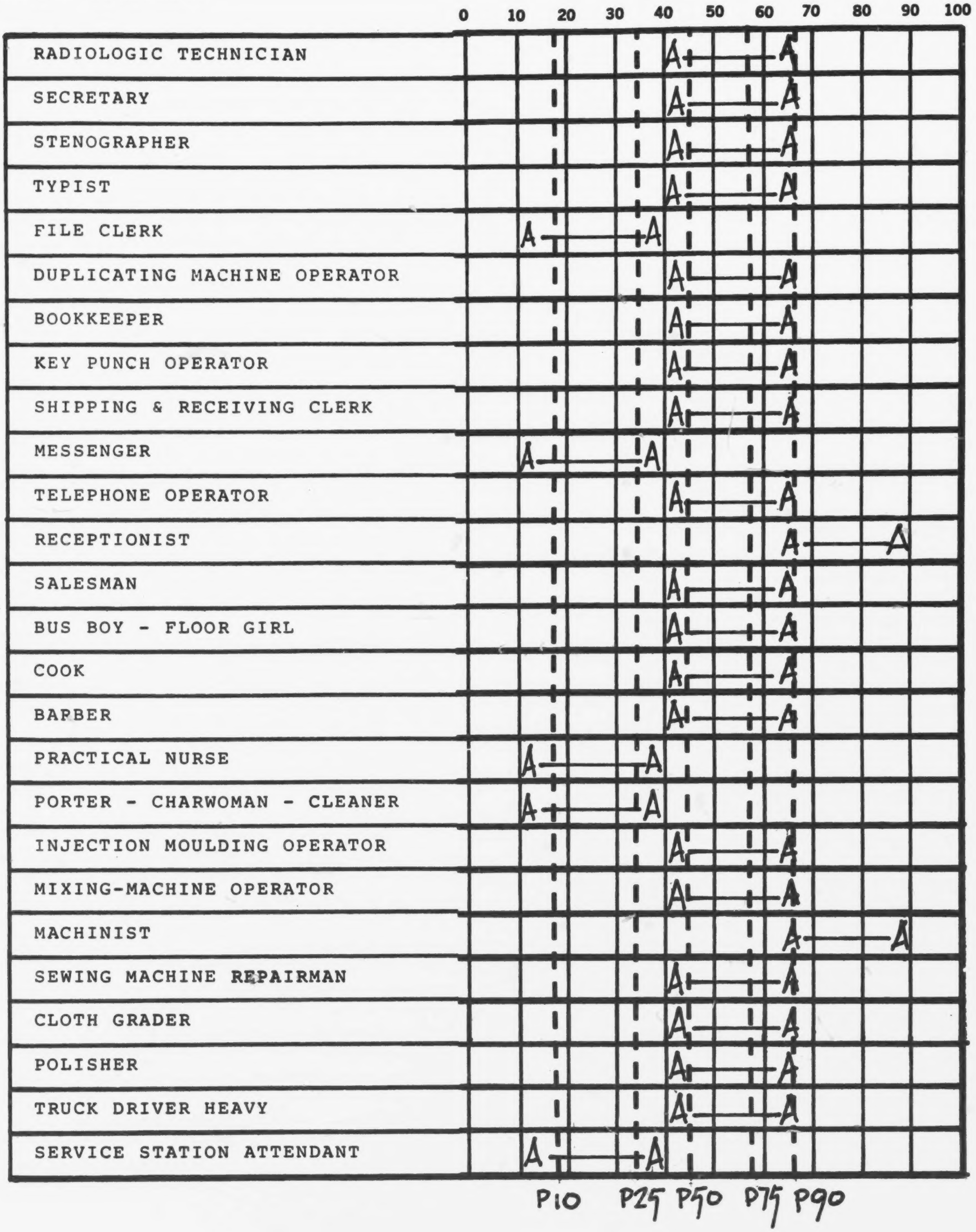


FIGURE 17

FORM PERCEPTION (P)

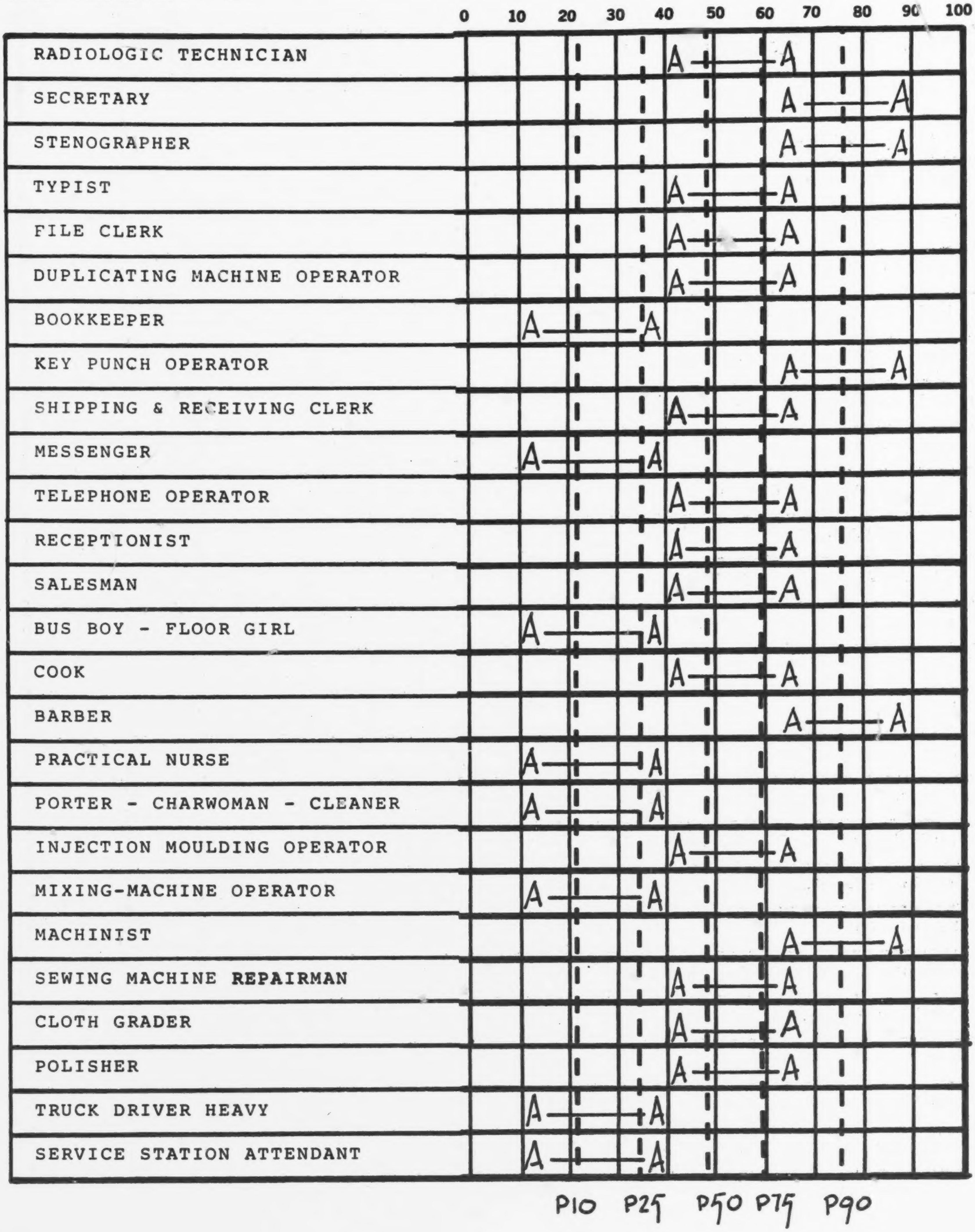
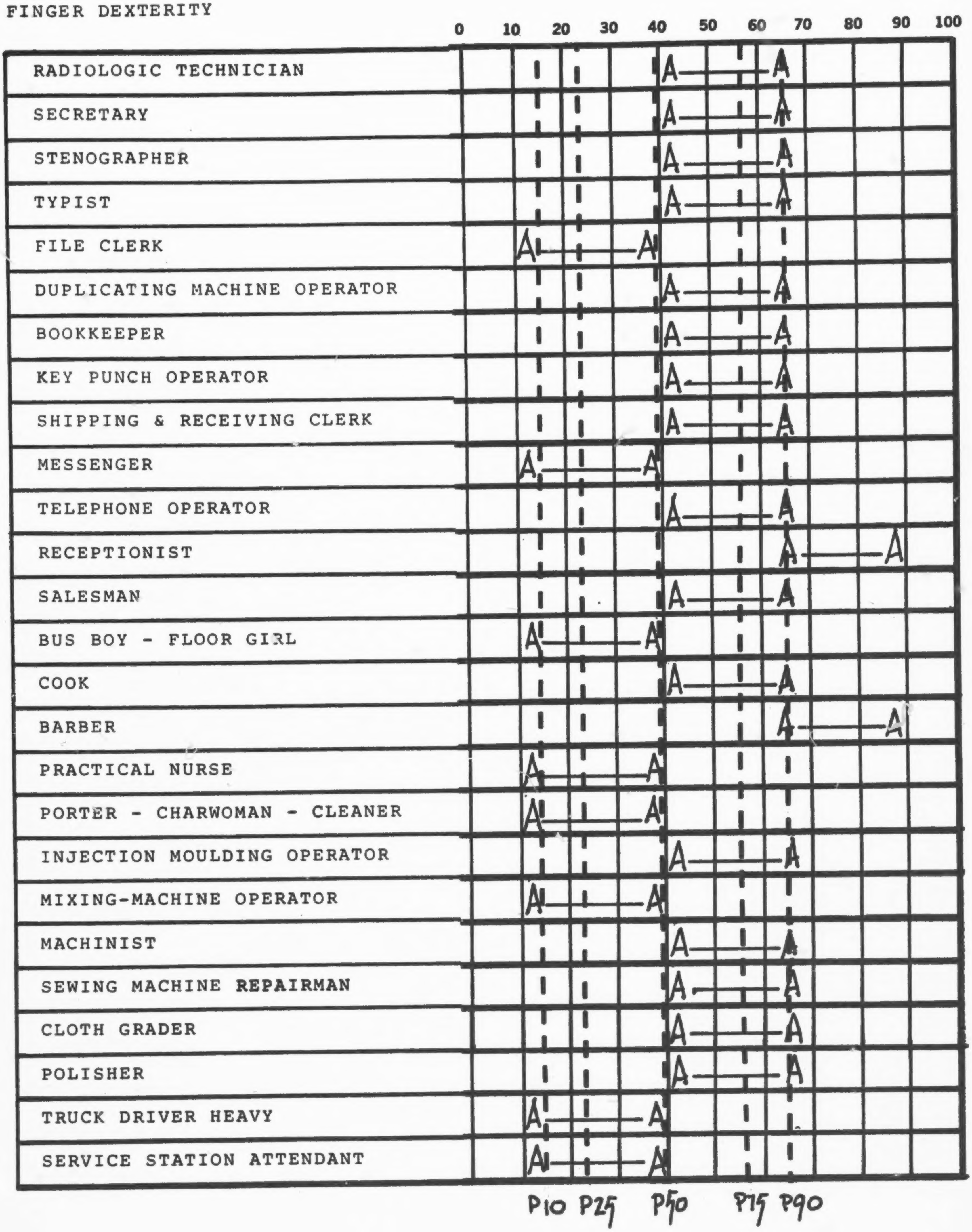


FIGURE 18

FINGER DEXTERITY



Few of the students at Valley have the motor coordination to hold positions of secretary, stenographer, receptionist and barber. (See Figure 19.) The upper 50% qualify by their scores to hold most of the jobs listed.

From the Dictionary of Occupational Titles, the General Educational Development (GED) requirements for each of the seven general areas of work are compared. The three GED measures of Reasoning, Mathematical and Language Development were used.

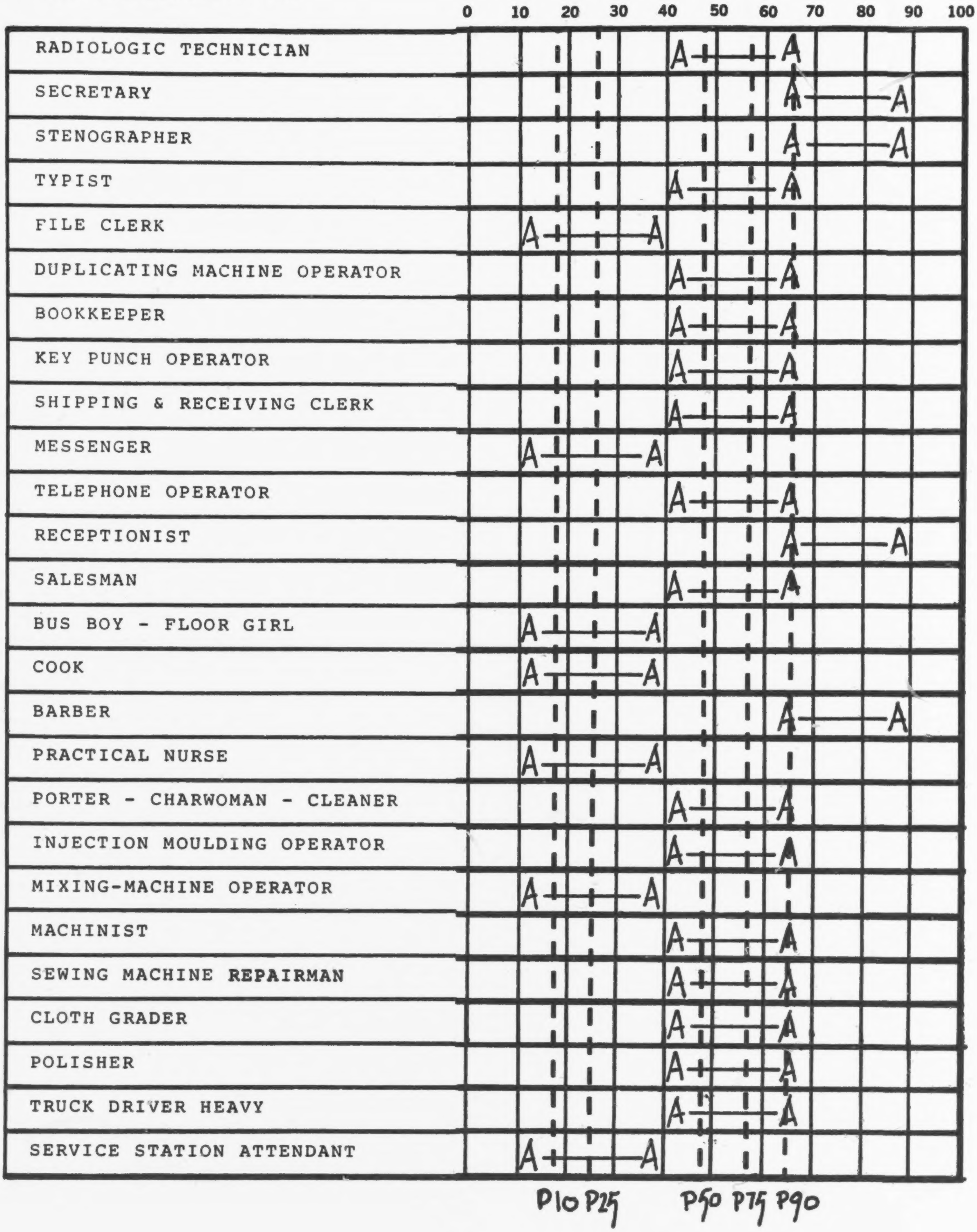
It can be seen that none of the jobs require reasoning development beyond level four. (See Figure 20.) Elemental and machine work require the least highly developed reasoning ability.

Language development requirements are the highest for the areas of medicine and health and merchandising, with requirements for elemental and machine work at the lowest level, i.e., primarily that of following directions. (See Figure 21.)

Performance requirements in the area of mathematical development are again the lowest for elemental and machine work. Entry level requirements in these areas are confined to the simplest of mathematical manipulations, i.e., the ability to count and write numbers and to perform simple addition and subtraction. In machine work, however, the

FIGURE 19

MOTOR COORDINATION (K)



GENERAL EDUCATIONAL DEVELOPMENT / AREA OF WORK	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	MERCHANDISING	PERSONAL SERVICE
REASONING DEVELOPMENT							
Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.							
Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions, in books, manuals, and mathematical or diagrammatic form. Deal with several abstract and concrete variables.							
Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic or schedule form.	▨	▨		▨	▨	▨	▨
Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables in or from standarized situations.	▨	▨		▨	▨	▨	▨
Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.		▨	▨	▨			▨
Apply common sense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.			▨	▨			

FIGURE 20

AREA OF WORK GENERAL EDUCATIONAL DEVELOPMENT	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	MERCHANDISING	PERSONAL SERVICE
LANGUAGE DEVELOPMENT							
Comprehension and expression of a level to --Report, write, or edit articles for such publications as newspapers, magazines, and technical or scientific journals. Prepare and draw up deeds, leases, wills, mortgages, and contracts. --Prepare and deliver lectures on politics, economics, education, or science.							
--Interview, counsel, or advise such people as students, clients or patients, in such matters as welfare eligibility, vocational rehabilitation, mental hygiene, or marital relations. --Evaluate engineering technical data to design buildings and bridges.							
Comprehension and expression of a level to --Transcribe dictation, make appointments for executive and handle his personal mail, interview and screen people wishing to speak to him, and write routine correspondence on own initiative. --Interview job applicants to determine work best suited for their abilities and experience, and contact employers to interest them in services of agency. --Interpret technical manuals as well as drawings and specifications, such as layouts, blueprints, and schematics.	▨	▨		▨	▨	▨	▨
Comprehension and expression of a level to --File, post, and mail such material as forms, checks, receipts, and bills. --Copy data from one record to another, fill in report forms, and type all work from rough draft or corrected copy.	▨	▨		▨	▨	▨	▨
--Interview members of household to obtain such information as age, occupation, and number of children, to be used as data for surveys, or economic studies. --Guide people on tours through historical or public buildings, describing such features as size, value, and points of interest.	▨	▨	▨	▨			▨
Comprehension and expression of a level to --Learn job duties from oral instructions or demonstration- --Write identifying information, such as name and address of customer, weight, number, or type of product, on tags, or slips. --Request orally, or in writing, such supplies as linen, soap, or work materials.			▨	▨			

FIGURE 21

AREA OF WORK GENERAL EDUCATIONAL DEVELOPMENT	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	MERCHANDISING	PERSONAL SERVICE
MATHEMATICAL DEVELOPMENT							
Apply knowledge of advanced mathematical and statistical techniques such as differential and integral calculus, factor analysis, and probability determination, or work with a wide variety of theoretical mathematical concepts and make original applications of mathematical procedures, as in empirical and differential equations.							
Perform ordinary arithmetic, algebraic, and geometric procedures in standard, practical applications.	▨	▨		▨	▨	▨	▨
Make arithmetic calculations involving fractions, decimals and percentages.	▨	▨		▨	▨	▨	▨
Use arithmetic to add, subtract, multiply, and divide whole numbers.		▨	▨	▨			▨
Perform simple addition and subtraction, reading and copying of figures, or counting and recording.			▨	▨			

FIGURE 22

range of requirements (these vary depending on the level of the desired job) includes ordinary algebraic and geometric procedures in standard practical applications. (See Figure 22.)

B. Civil Service

On the general intelligence score, the great majority of the Valley High School population would not qualify for the jobs of drafting clerk, patrolman, survey worker and social worker. (See Figure 23.) The upper quartile would qualify for most of the jobs.

The lack of verbal ability of most Valley students would disqualify them for such jobs as stenographer, patrolman, survey worker and social worker. (See Figure 24.) Most of the jobs are within the verbal ability of the middle 80% of the population.

On the numerical score, the great majority of the students at Valley could qualify for most of the jobs listed in civil service. (See Figure 25.) Only the job of drafting clerk would be unavailable to them.

The spatial perception of the lower 50% of Valley students is adequate for almost all of the jobs listed. (See Figure 26.) The job of drafting clerk requires spatial perception beyond all but a very few of Valley students.

On the clerical score, few Valley students now qualify for general clerk, timekeeper, stenographer, key

FIGURE 23

INTELLIGENCE

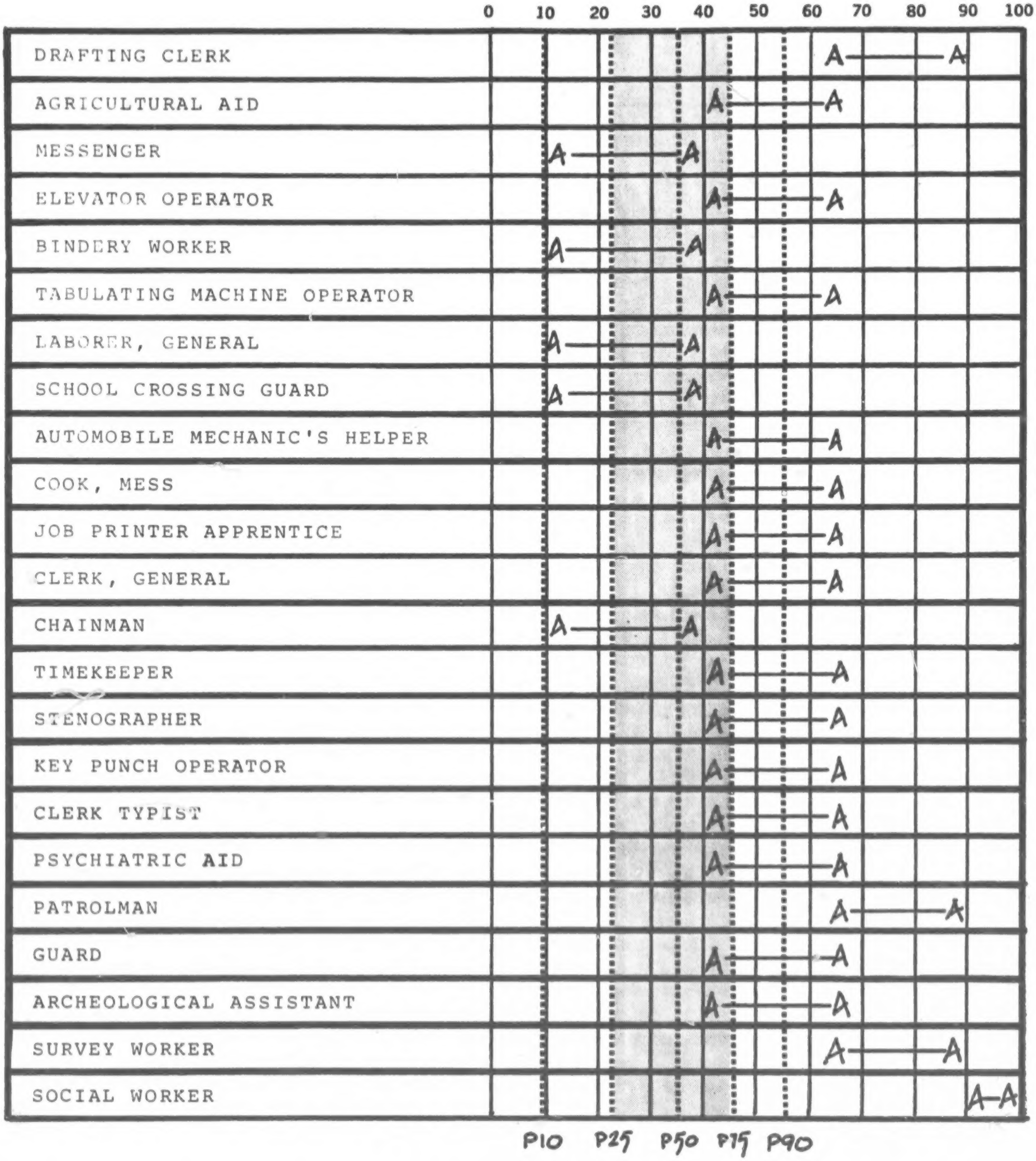


FIGURE 24

VERBAL

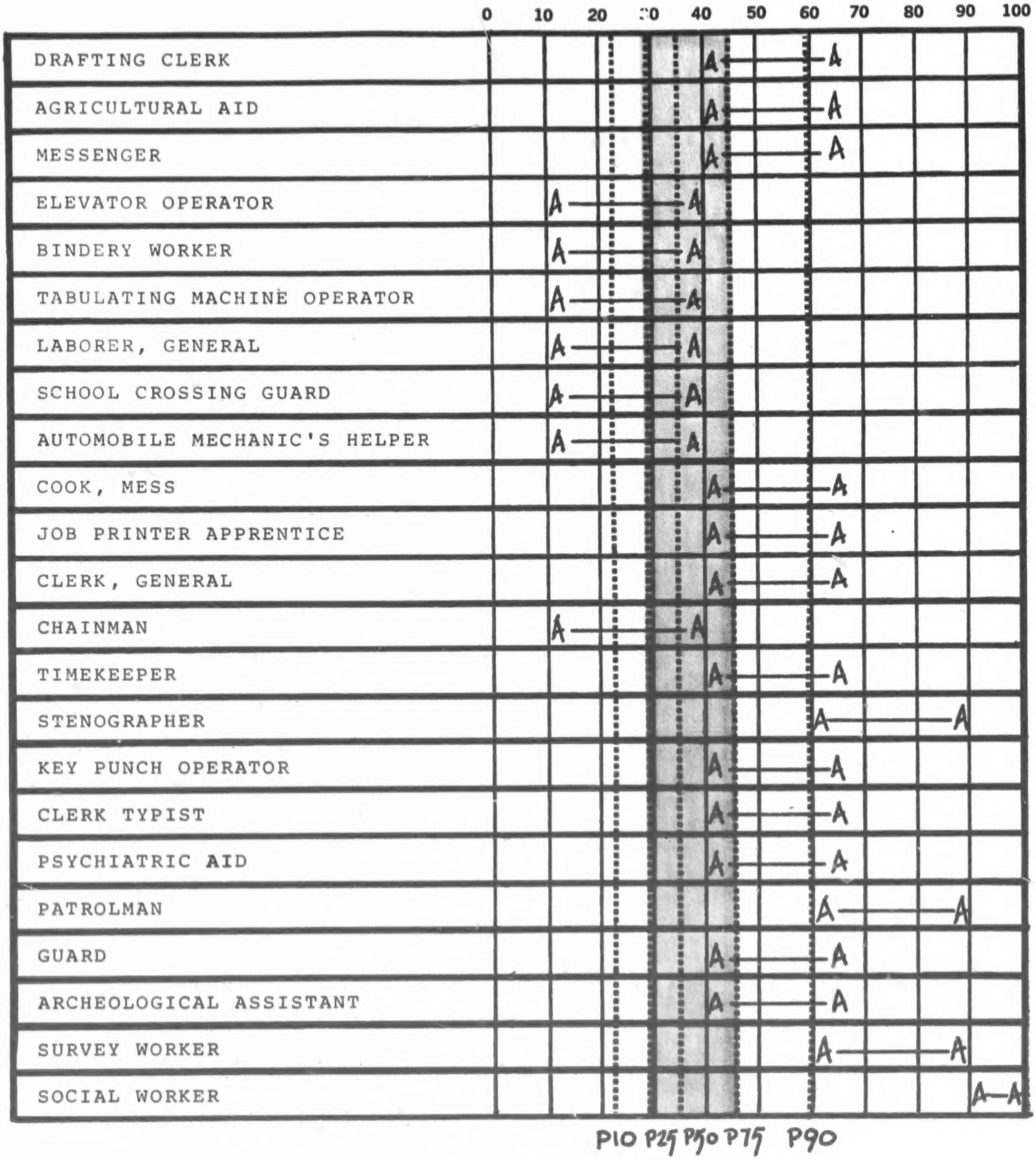
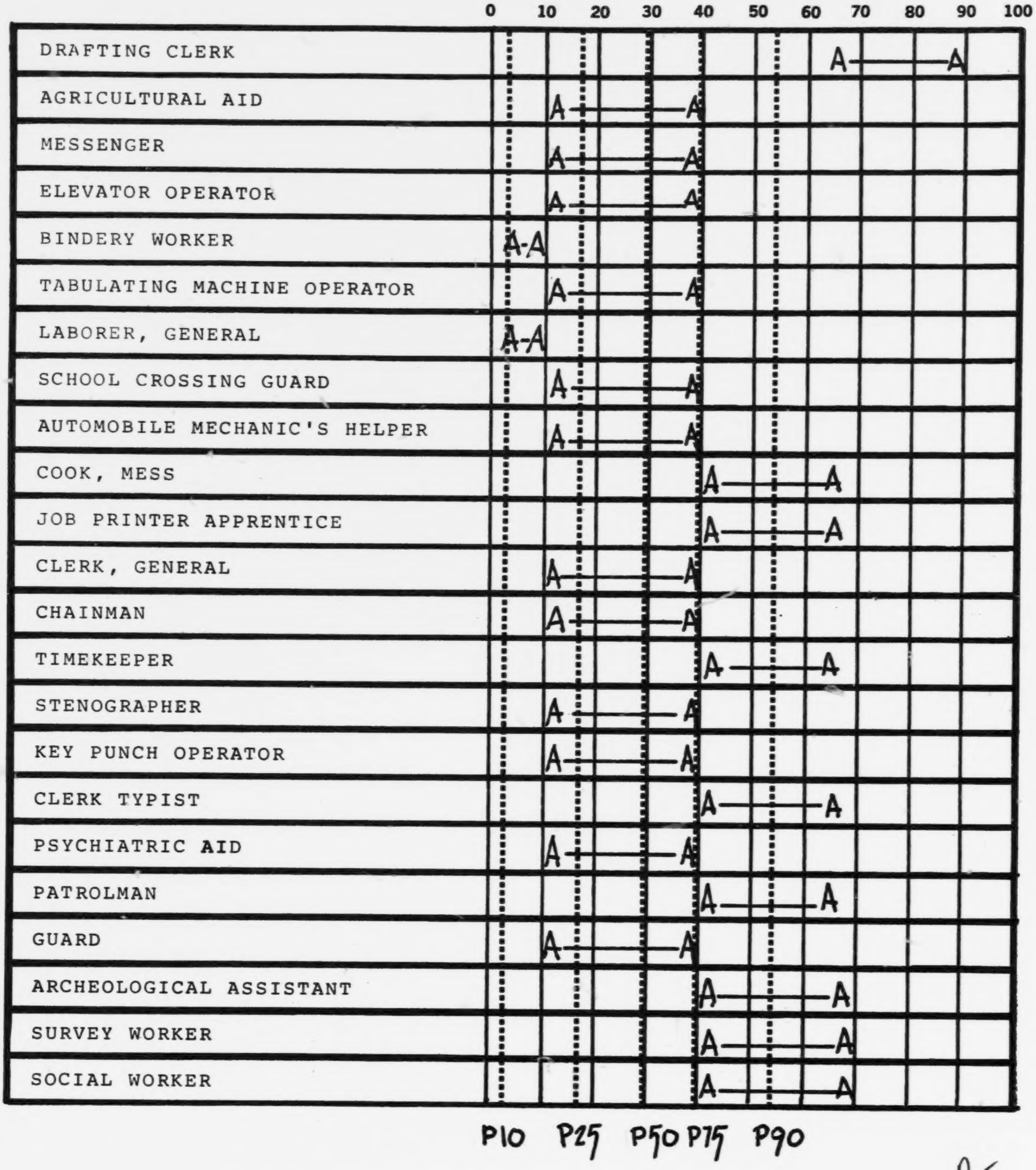


FIGURE 25

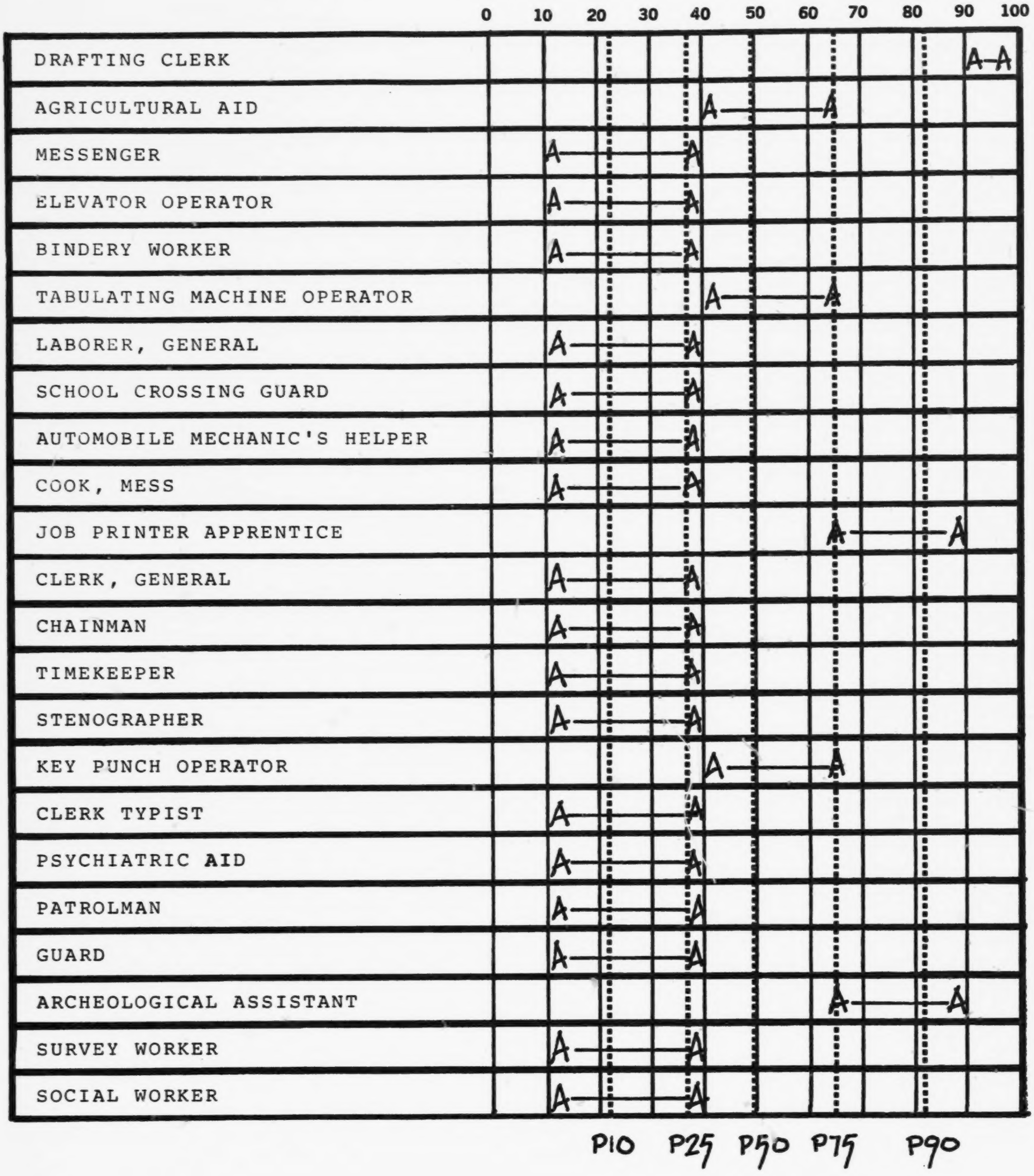
NUMERICAL (N)



2

FIGURE 26

SPATIAL (S)



punch operator, or survey worker jobs. (See Figure 27.) Most of the jobs require clerical ability commensurate with the lower 50% of the population's ability.

The manual dexterity of Valley students qualifies them for most of the jobs in civil service. (See Figure 28.) Only the job of archeological assistant requires more manual dexterity than is possessed by the middle 80% of the population.

The form perception score indicates that most Valley students are qualified for jobs in civil service by this measurement. (See Figure 29.) Only drafting clerk, key punch operator and clerk typist jobs demand an ability to perceive forms equivalent to the upper quartile of the population's ability.

According to the finger dexterity score, only the upper half of Valley population could hold nine of the jobs listed. (See Figure 30.) Drafting clerk requires finger dexterity at a level few Valley students possess.

The motor coordination of the middle 80% of Valley population is commensurate with that needed for most jobs listed. (See Figure 31.) However, a drafting clerk, stenographer and archeological assistant requires motor coordination beyond the level of most Valley students.

From the Dictionary of Occupational Titles, the General Educational Development requirements for each of

FIGURE 27

CLERICAL (Q)

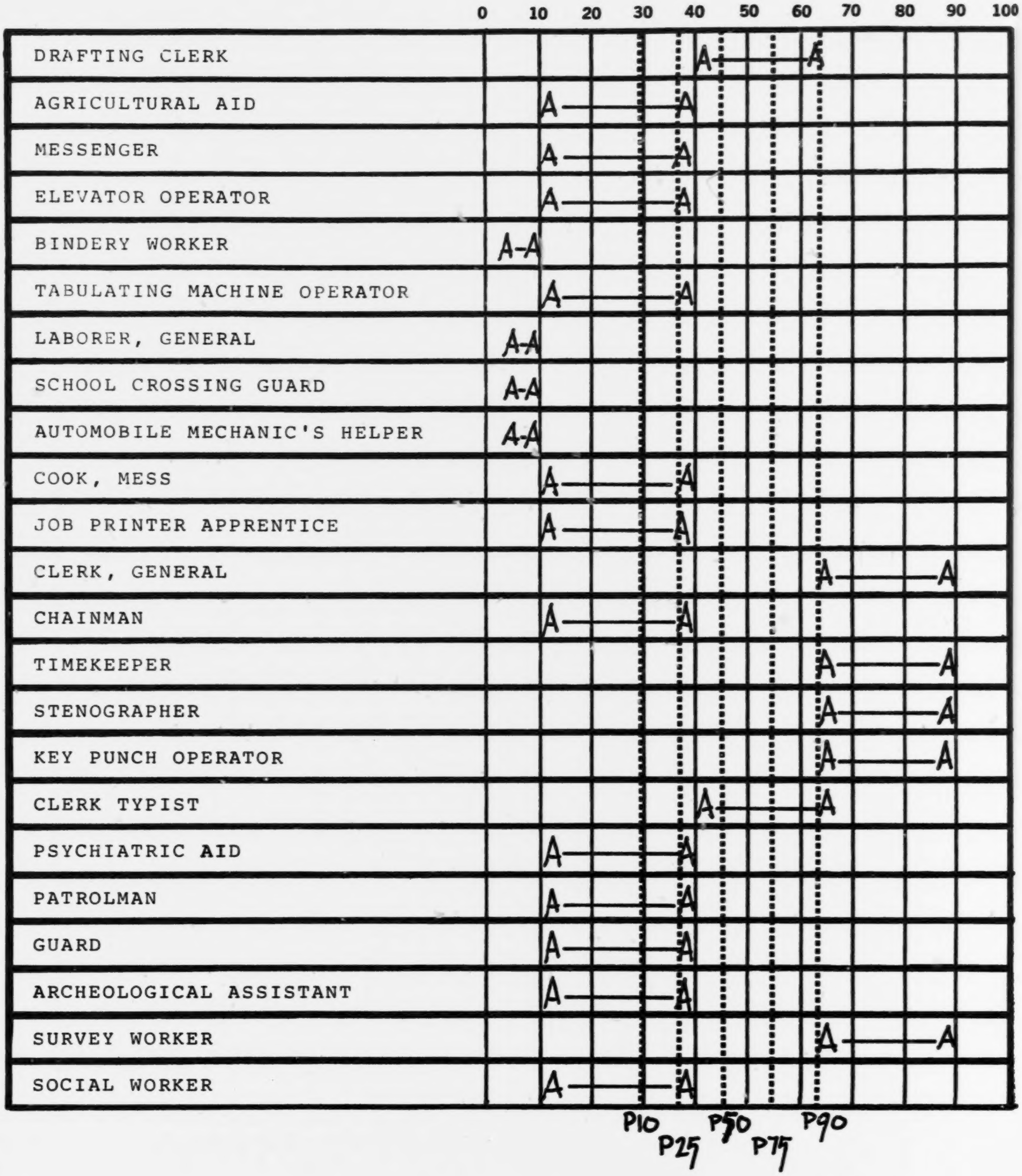


FIGURE 28

MANUAL DEXTERITY (M)

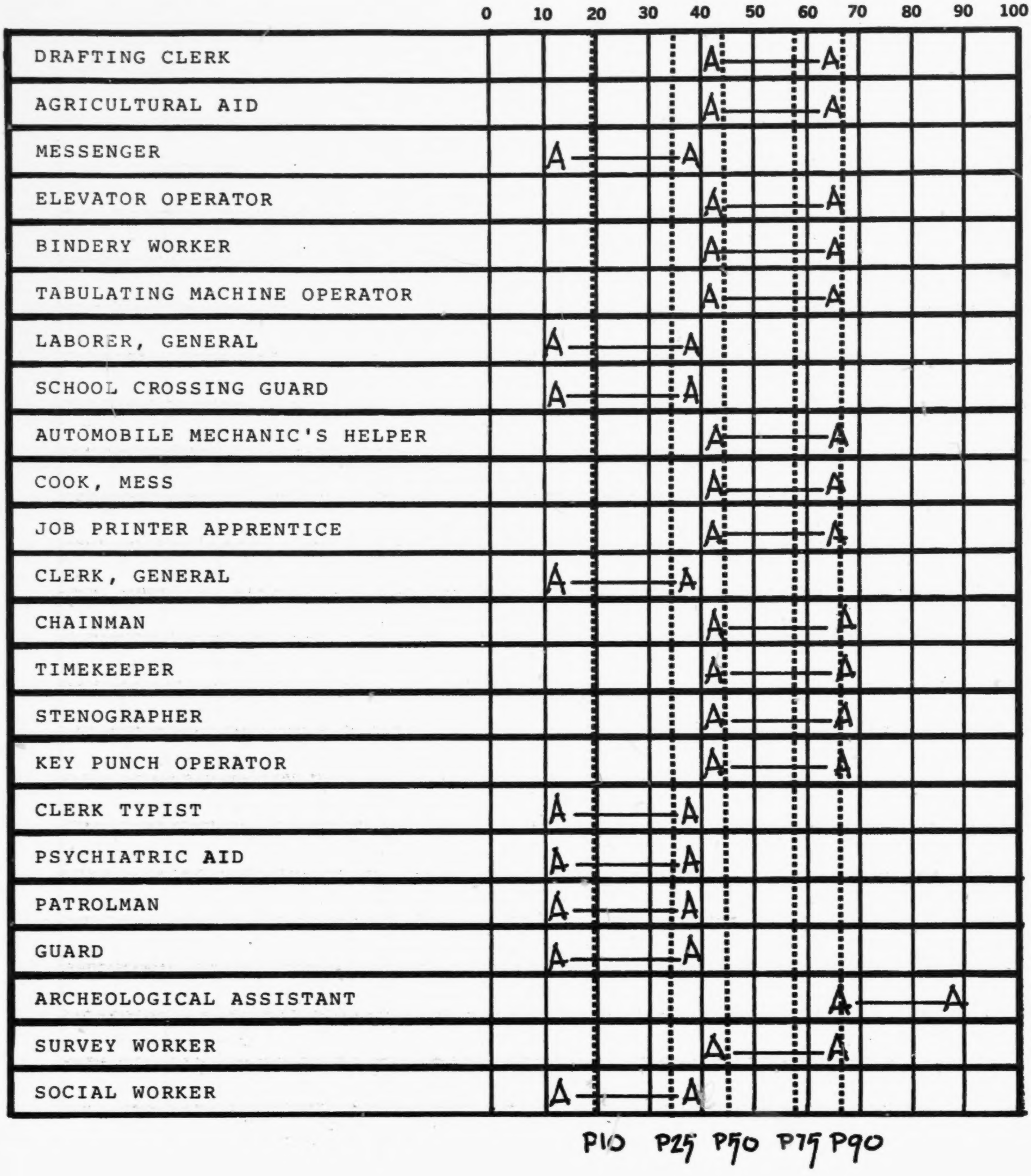


FIGURE 29

FORM PERCEPTION (P)

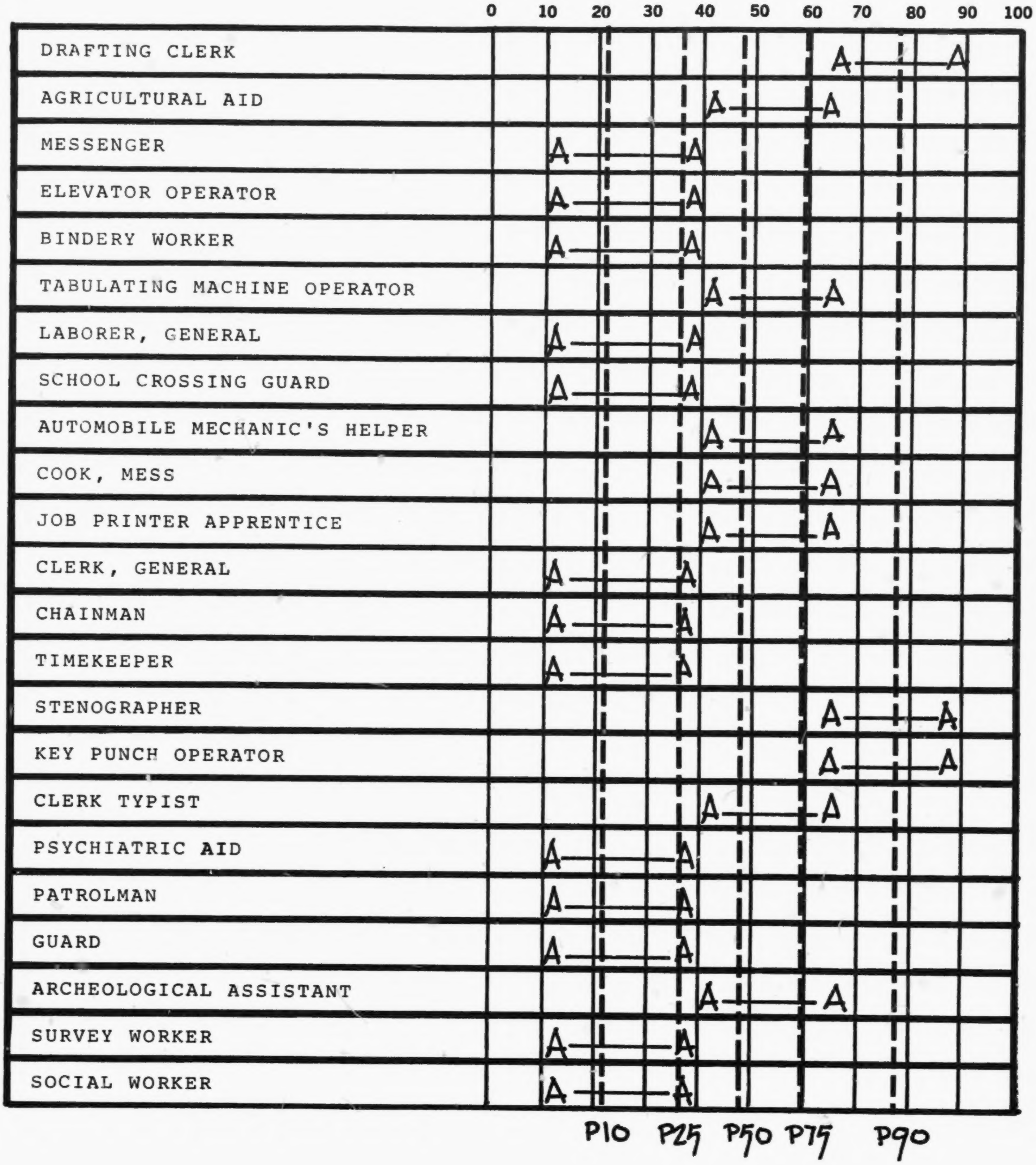


FIGURE 30

FINGER DEXTERITY

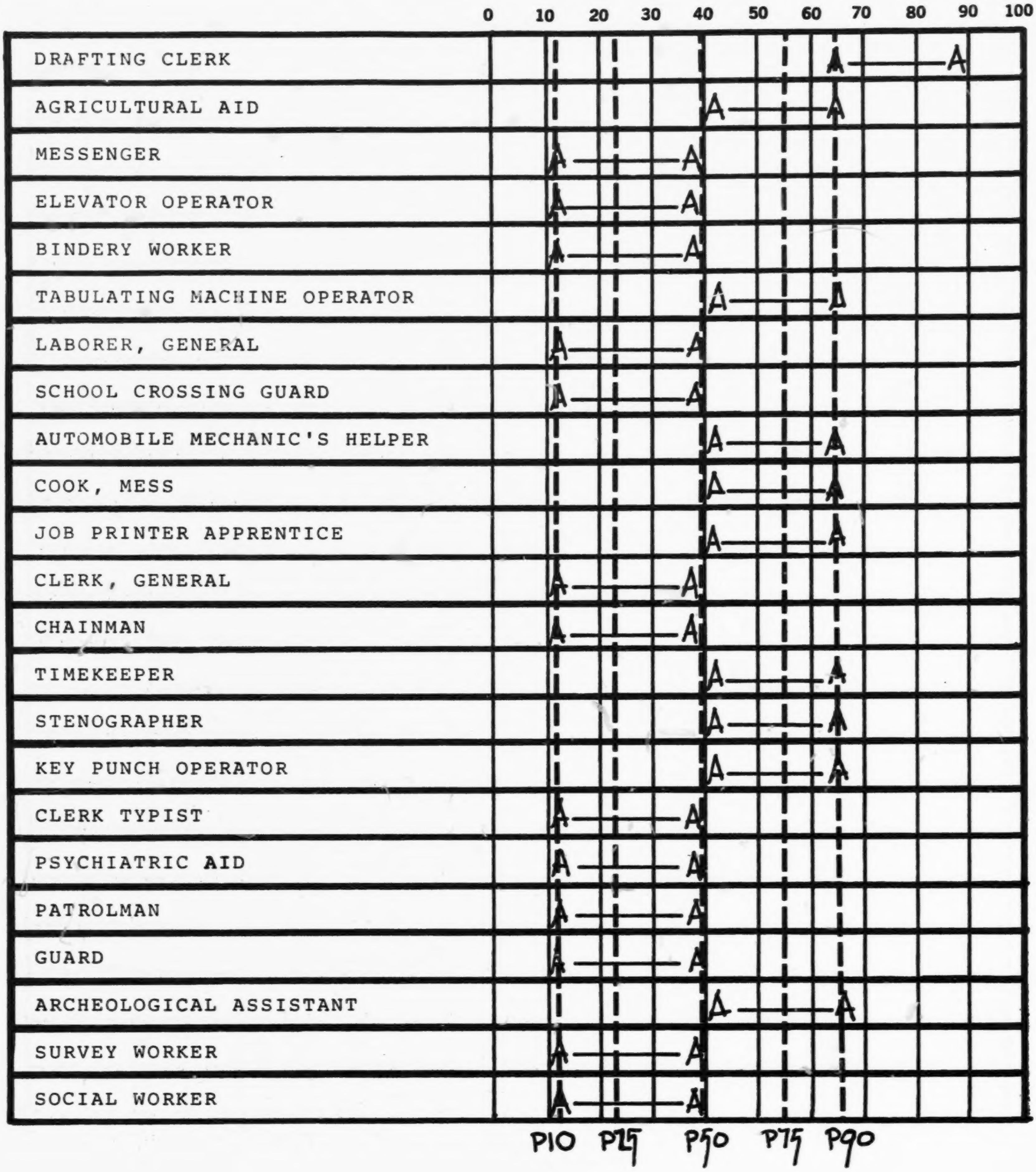
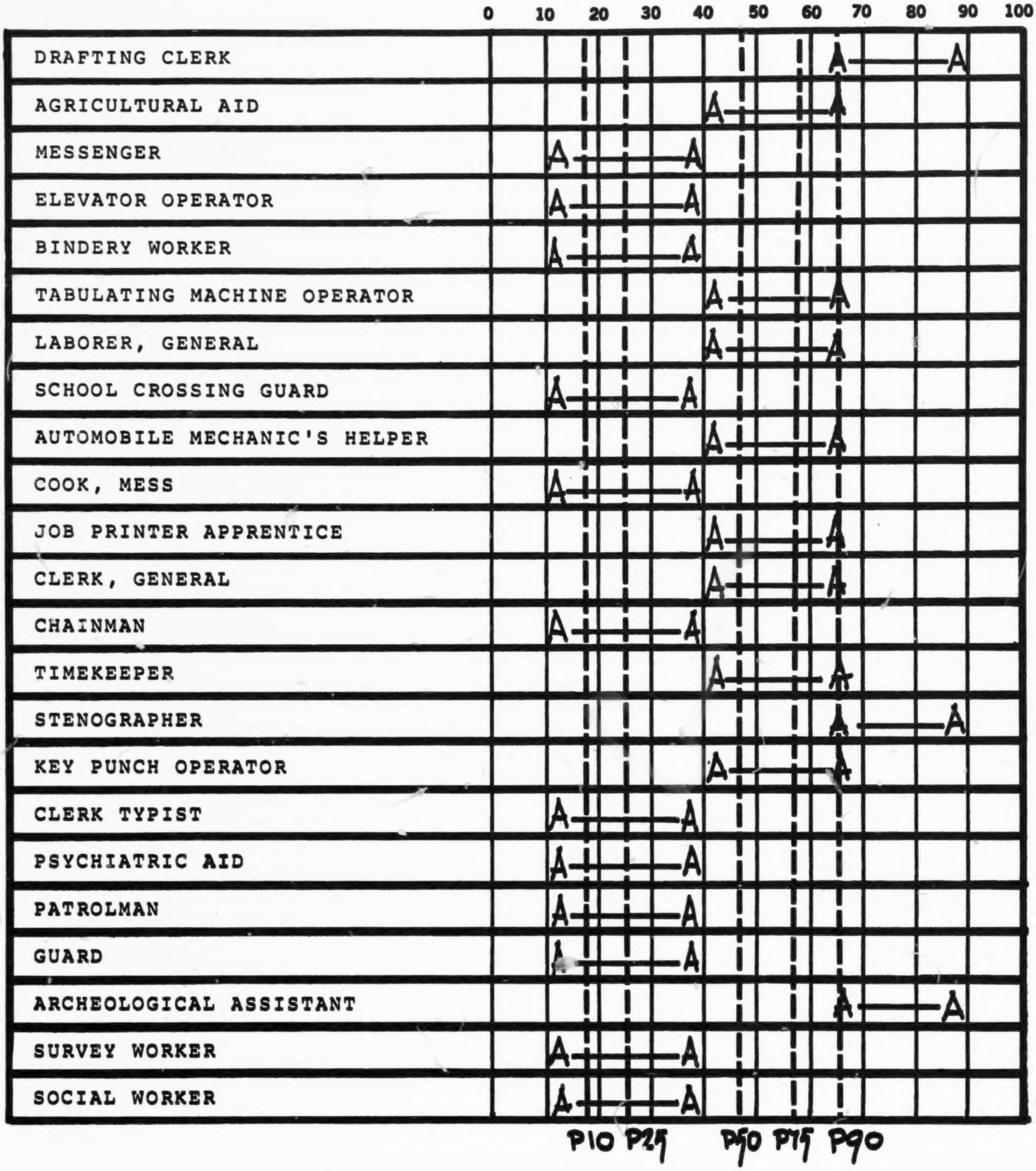


FIGURE 31

MOTOR COORDINATION (K)



the thirteen general areas of work are compared.

Figures 32 through 34 show that entry level positions in clerical, elemental and machine work jobs can be obtained with the least highly developed reasoning, language and mathematical abilities. Counseling and guidance jobs require the highest level of these abilities.

AREA OF WORK GENERAL EDUCATIONAL DEVELOPMENT	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	PERSONAL SERVICE	ART	BUSINESS RELATIONS	COUNSELING & GUIDANCE	ENGINEERING	FARMING & FISHING	INVESTIGATION & INSPECTING	LAW & LAW ENFORCEMENT
REASONING DEVELOPMENT													
Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.									▨				
Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions, in books, manuals, and mathematical or diagrammatic form. Deal with several abstract and concrete variables.							▨	▨	▨	▨		▨	
Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic or schedule form.	▨	▨		▨			▨	▨		▨	▨	▨	
Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables in or from standarized situations.	▨	▨		▨	▨	▨					▨		▨
Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.	▨	▨	▨	▨		▨							
Apply common sense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.	▨		▨	▨									

PAGE 62 FIGURE 32

AREA OF WORK GENERAL EDUCATIONAL DEVELOPMENT	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	PERSONAL SERVICE	ART	BUSINESS RELATIONS	COUNSELING & GUIDANCE	ENGINEERING	FARMING & FISHING	INVESTIGATION & INSPECTING	LAW & LAW ENFORCEMENT
LANGUAGE DEVELOPMENT													
Comprehension and expression of a level to --Report, write, or edit articles for such publications as newspapers, magazines, and technical or scientific journals. Prepare and draw up deeds, leases, wills, mortgages, and contracts. --Prepare and deliver lectures on politics, economics, education, or science.									▨				
--Interview, counsel, or advise such people as students, clients or patients, in such matters as welfare eligibility, vocational rehabilitation, mental hygiene, or marital relations. --Evaluate engineering technical data to design buildings and bridges.							▨	▨	▨	▨		▨	
Comprehension and expression of a level to --Transcribe dictation, make appointments for executive and handle his personal mail, interview and screen people wishing to speak to him, and write routine correspondence on own initiative. --Interview job applicants to determine work best suited for their abilities and experience, and contact employers to interest them in services of agency. --Interpret technical manuals as well as drawings and specifications, such as layouts, blueprints, and schematics.	▨	▨		▨			▨	▨		▨	▨	▨	
Comprehension and expression of a level to --File, post, and mail such material as forms, checks, receipts, and bills. --Copy data from one record to another, fill in report forms, and type all work from rough draft or corrected copy.	▨	▨		▨	▨	▨					▨		▨
--Interview members of household to obtain such information as age, occupation, and number of children, to be used as data for surveys, or economic studies. --Guide people on tours through historical or public buildings, describing such features as size, value, and points of interest.	▨	▨	▨	▨		▨							
Comprehension and expression of a level to --Learn job duties from oral instructions or demonstration- --Write identifying information, such as name and address of customer, weight, number, or type of product, on tags, or slips. --Request orally, or in writing, such supplies as linen, soap, or work materials.	▨		▨	▨									

FIGURE 33

GENERAL EDUCATIONAL DEVELOPMENT / AREA OF WORK	CLERICAL	CRAFTS	ELEMENTAL	MACHINE WORK	MEDICINE & HEALTH	PERSONAL SERVICE	ART	BUSINESS RELATIONS	COUNSELING & GUIDANCE	ENGINEERING	FARMING & FISHING	INVESTIGATION & INSPECTING	LAW & LAW ENFORCEMENT
MATHEMATICAL DEVELOPMENT													
Apply knowledge of advanced mathematical and statistical techniques such as differential and integral calculus, factor analysis, and probability determination, or work with a wide variety of theoretical mathematical concepts and make original applications of mathematical procedures, as in empirical and differential equations.									▨				
							▨	▨	▨	▨		▨	
Perform ordinary arithmetic, algebraic, and geometric procedures in standard, practical applications.	▨	▨		▨			▨	▨		▨	▨	▨	
Make arithmetic calculations involving fractions, decimals and percentages.	▨	▨		▨	▨	▨					▨		▨
Use arithmetic to add, subtract, multiply, and divide whole numbers.	▨	▨	▨	▨		▨							
Perform simple addition and subtraction, reading and copying of figures, or counting and recording.	▨		▨	▨									

FIGURE 34

III. WORKER TRAIT FACTORS

A. Business and Industry

In the following pages, jobs in the local labor market which were listed by business and industry and grouped according to worker traits are presented. Dictionary of Occupational Titles reference numbers are cited below the job identification at the top of the page. At the bottom of the page, the jobs in this general area of work are listed. Although some of the information included in the worker trait factors has been presented previously, some of the information is new, including clues for relating applicants and requirements.

CLASSIFYING, FILING, AND RELATED WORK

.388

Work Performed

Work activities in this group primarily involve gathering together, classifying, sorting, and/or filing correspondence, account records, business forms, and related data. The preparation of reports and keeping of records is frequently involved.

Worker Requirements

An occupationally significant combination of: Reading comprehension in order to obtain pertinent information; numerical facility for performing arithmetic computations; accuracy and attention to detail for close clerical work; and the ability to follow instructions and established procedures in doing routine work.

Clues for Relating Applicants and Requirements

Successful completion of commercial coursework in high school.
Preference for routine, organized, stable work situation.
Neatness.
Legible handwriting.

Training and Methods of Entry

Graduation from high school with successful completion of commercial courses and demonstrated familiarity with elementary clerical skills will usually qualify an individual for entry into this work. Many employers administer tests designed to show the applicant's suitability for employment of this nature.

A period of on-the-job training ranging up to three months is usually sufficient to familiarize entry workers with clerical procedures and forms used in specific establishments.

JOBS REPORTED:

File Clerk
General Office Clerk

(Page 276)

INSPECTING AND STOCK CHECKING

.382; .384; .387; .484; .487

Work Performed

Work activities in this group primarily involve examining stores of materials and supplies and compiling inventory records, inspecting products and structures to verify adherence to material and assembly standards of the type recorded on blueprints, and testing products and equipment to verify adherence to functional specifications of the type found in operating and maintenance manuals. Precision measuring instruments and test apparatus are commonly used. Certain inspection situations, such as those wherein standardization is limited, may entail the solving of practical problems involving abstract and concrete principles in order to interpret specifications and inspection data related to specific products or standards.

Worker Requirements

An occupationally significant combination of: Numerical skill and clerical aptitude to prepare inventory or inspection data and to keep accurate and legible records; some combination of form, spatial, and color perception to make discriminations relevant to shape, size, texture, and hue or shade of objects; some combination of finger and manual dexterity and eye-hand coordination to use test apparatus and precision instruments; precision and accuracy working to close detail.

Clues for Relating Applicants and Requirements

Interest in technical subjects.
Demonstrated ability to work with written specifications or standards involving set limits and tolerances.
Successful completion of such high school courses as blueprint reading, mechanical drawing, shop mathematics, and bookkeeping.

Training and Methods of Entry

Entry generally requires familiarity with specific materials, products, or standards acquired through experience in lower level positions. Some education or vocational training in such subjects as mechanical drawing, blueprint reading, and shop mathematics is generally considered essential.

JOBS REPORTED:

Cloth Grader
Parts/Tool Clerk
Shipping & Receiving Clerk

PAYING AND RECEIVING (BANKS AND OTHER ESTABLISHMENTS)

.368

Work Performed

Work activities in this group primarily involve receiving funds from people in such establishments as banks, credit unions, and loan agencies, and recording the monetary transactions incidental to the conduct of business.

Worker Requirements

An occupationally significant combination of: Ability to learn and apply bookkeeping procedures; accuracy, rapidity and attention to detail when exchanging money and recording transactions; manual and finger dexterity to operate calculating machines; tact, courtesy, honesty, a neat appearance, a good memory, and affability.

Clues for Relating Applicants and Requirements

Preference for working in a bank or other monetary establishment.
Good scores in commercial, clerical, and business courses in high school.
Part-time experience selling tickets to high school football games in stadium booth.

Training and Methods of Entry

A high school education is adequate preparation to satisfy the requirements of most employers. Individuals with experience in bookkeeping or commercial courses who have the ability to operate calculating machines are preferred. In most cases, on-the-job training under the observance of experienced workers is provided.

JOBS REPORTED:

Receptionist

(Page 267)

SECRETARIAL AND RELATED WORK

.268; .368

Work Performed

Work activities in this group primarily involve performing such clerical tasks as taking dictation and typing, and assuming minor executive duties which relieve organizational officials from these responsibilities. The basic duties are taking dictation either by hand or shorthand machine and transcribing by typewriter from these notes or from a recording played on transcribing machine. Other duties include making and reminding executives of appointments, interviewing and screening office visitors, answering and making telephone calls, and reading and writing routine correspondence.

Worker Requirements

An occupationally significant combination of: Facility with words; the ability to successfully perform work of a detailed nature and avoid errors; diplomacy and tact in dealing with people; and the ability to adapt to fluctuating situations; form perception to perceive differences in shorthand symbols; and motor coordination and finger dexterity for some office machines.

Clues for Relating Applicants and Requirements

Success in high school commercial course.
Poise, good grooming, and tasteful manner of dressing exhibited in interview.
Pleasant personality and speaking voice.
Part-time work experience as receptionist.
Expressed preference for public contact work.

Training and Methods of Entry

A broad educational background is of considerable value to a person who wishes to gain entry. Completion of a business course in high school or commercial college, demonstrated ability in office skills, and such personal qualifications as conscientiousness, discretion, and a pleasant personality are most important. Additional education in night schools and college work in secretarial studies is very often required for most responsible positions.

Workers frequently start with basic typing or stenographic positions and advance to secretarial jobs when they have acquired the necessary background and training. Some schools conduct cooperative work-study programs through which students gain job experience before graduation.

JOBS REPORTED:

Secretary

STENOGRAPHIC AND RELATED WORK

.388

Work Performed

Work activities in this group primarily involve taking shorthand by hand or machine and transcribing it with a typewriter.

Worker Requirements

An occupationally significant combination of: The ability to understand the meaning and relationships of words and sentences; finger dexterity and eye-hand coordination for taking dictation or typing; form perception to recognize shorthand symbols; adaptability to routine, repetitive, and uninvolved tasks; attention to detail in dictation or typed materials to avoid error; willingness to work according to instructions; ability to work with specialized terminology, such as that in the medical, legal, or engineering fields.

Clues for Relating Applicants and Requirements

Completion of typing, shorthand, and other business courses in high school or business school.

Successful performance on clerical aptitude and achievement tests.

Training and Methods of Entry

A majority of workers who enter this field are high school graduates who have received specialized training in typing, shorthand, and business courses in high school or business schools. Passing of typing and shorthand tests usually are required.

JOBS REPORTED:

Stenographer

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TYPESETTING, REPRODUCING, AND RELATED MACHINE WORK

.382; .582

Work Performed

Work activities in this group primarily involve setting up, adjusting, and operating data-processing, typesetting, linotype, duplicating, addressing, and similar commercial machines. The work is usually specialized and workers spend a majority of their time at their machines, functioning accurately and at high speed.

Worker Requirements

An occupationally significant combination of: The ability and willingness to follow instructions in performing work of a routine, organized nature; attention to detail and good reading comprehension in order to avoid clerical errors; form and spatial perception, eye-hand coordination, and finger and manual dexterity for using machines; and an inclination toward working with machines.

Clues for Relating Applicants and Requirements

Commercial courses in high school.
Night school courses in clerical machine operating.
Aptitude test scores that indicate adaptability for this type of work.
Preference for working with machines.

Training and Methods of Entry

Graduation from high school or business school with appropriate commercial coursework is frequently the minimum educational requirement for entry into this type of work. For some kinds of work specialized training on a particular machine is required. For most beginning positions, however, a general knowledge of the kind of equipment used is usually regarded as sufficient preparation. Employers usually give new employees instruction and on-the-job training ranging anywhere from a few days to several months, depending chiefly on the type of machine.

JOBS REPORTED:

Key Punch Operator

(Page 274)

TYPING AND RELATED RECORDING

.588

Work Performed

Work activities in this group primarily involve recording or transmitting verbal or coded material by the use of such office machines as typewriter, teletypewriter, tape perforator, Braille machine, and telegraphic key.

Worker Requirements

An occupationally significant combination of: Attentiveness to detail to avoid errors in transferring data from records or draft copies; motor coordination and finger dexterity; adaptability for repetitious work; form perception; and willingness to work under direction of others.

Clues for Relating Applicants and Requirements

Completion of typing and related commercial courses in high school or commercial school.
Satisfactory scores in clerical aptitude and achievement tests.

Training and Methods of Entry

A majority of workers who enter this field are high school graduates who have received specialized training in typing and business methods through courses in high school or business schools. A satisfactory score on a typing test is usually required. On-the-job training designed to help the individual acquire proficiency in specific machine operation is customary.

JOBS REPORTED:

Typist

(Page 287)

SWITCHBOARD SERVICE

.862

Work Performed

Work activities in this group primarily involve operating telephone switchboards to relay incoming and internal calls to phones in an establishment and make connections with external lines for outgoing calls. Taking messages, supplying information to callers, recording number of calls made and charges frequently are involved.

Worker Requirements

An occupationally significant combination of: Tact and courtesy; motor coordination; finger and manual dexterity; ability to adjust to routine work; an affinity for dealing with people; verbal ability; good hearing; and a pleasant speaking voice.

Clues for Relating Applicants and Requirements

Courtesy and tact evident in an interview.
High score in motor coordination on aptitude test.
Pleasant speaking voice.
Clerical course in high school.
Expressed preference for public contact work.

Training and Methods of Entry

Most workers start as trainees and undergo a period of closely supervised on-the-job training. Personal characteristics, particularly the ability to deal with the public, are strong qualifying factors. Some sort of commercial curriculum in school can provide a good background for entry into this type of work.

JOBS REPORTED:

Telephone Operator

(Page 291)

COMPUTING AND RELATED RECORDING

.388; .488

Work Performed

Work activities in this group primarily involve performing arithmetic computations and preparing numerical records with the aid of typewriters and adding, billing, bookkeeping, and calculating machines. Typical activities are computing wages, interest, and production costs; totaling bank deposit slips; and verifying computations recorded in accounts.

Worker Requirements

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, record keeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

Clues for Relating Applicants and Requirements

Expressed preference for clerical work.
Good grades in arithmetic and pertinent clerical subjects in school.

Training and Methods of Entry

Graduation from high school and business school with average or superior grades in arithmetic frequently is the minimum requirement for entry into this type of work.

For some kinds of work, specialized training on a particular machine is required. For many beginning positions, however, a general knowledge of the work and equipment involved usually is regarded as sufficient preparation. Often an employer will give a new employee instruction and on-the-job training, ranging anywhere from a few days to several months, depending chiefly on the type of work or the kind of machine involved.

JOBS REPORTED:

Bookkeeper

(Page 280)

MANIPULATING

.884

Work Performed

Work activities in this group primarily involve the dexterous use of hands, handtools, or special devices to work, move, guide, or place objects or materials. There exists some latitude for judgment in selecting the appropriate tools, objects, or materials, and in determining work procedures and conformance to standards, although all these factors are fairly obvious. The work most frequently occurs away from a machine-oriented environment, and is prevalent in such endeavors as bench crafts, structural work, and hunting and fishing.

Worker Requirements

An occupationally significant combination of: Eye-hand coordination; manual and finger dexterity; spatial and form perception; a decided preference for working with the hands; the ability to work within prescribed standards and specifications; and facility in adapting to a routine.

Clues for Relating Applicants and Requirements

Success in craft courses in school.
Hobby of making scale-model boats and airplanes.
Expressed preference for working with the hands.
Hobbies of hunting and fishing.

Training and Methods of Entry

Apprenticeship programs and on-the-job training are the usual means by which a worker becomes familiar with his job. On occasions, experience in a lesser capacity can prepare an applicant for entry into this type of work, provided he has shown diligence and the capacity for more involved tasks.

Individuals with some exposure to disciplined and standardized work methods in a school or related environment will usually be given preference.

JOBS REPORTED:

Duplicating Machine Operator
Arc Welder
Floor Girl
Grinder, Hand
Polisher
Roustabout
Silk Screen Printer

COOKING AND RELATED WORK

.281; .381

Work Performed

Work activities in this group primarily involve planning and preparing meals in private homes or in restaurants, hotels, camps, and other places serving large numbers of people.

Worker Requirements

An occupationally significant combination of: Ability to learn the theory and techniques of food preparation;ability to plan menus and to compute quantities and costs to order supplies; form perception to examine food and to prepare food arrangements or displays; finger and manual dexterity to use kitchen tools, appliances, and utensils; willingness to wear a uniform; and good health to pass a strict physical examination and obtain a health card from the health department.

Clues for Relating Applicants and Requirements

Successful completion of high school home economics course.
Cooking or baking contest awards.
Cooking experience in the military service.

Training and Methods of Entry

One method of entry is working in a kitchen under the direction of a fully qualified worker. Cooks in large hotels and restaurants usually are graduates of cooking schools or institutes which require graduation from the eighth grade as an essential prerequisite for enrollment. High school or college home economics graduates can enter this field and become proficient after on-the-job training. Apprenticeships are also available in the metropolitan areas.

JOBS REPORTED:

Cook

(Page 310)

CRAFTSMANSHIP AND RELATED WORK

.281; .381

Work Performed

Work activities in this group primarily involve fabricating, processing, inspecting, or repairing materials, products, or structural units. Activities in this group are characterized by the emphasis placed upon manual skills, and the application of an organized body of knowledge related to materials, tools and principles associated with various crafts.

Worker Requirements

An occupationally significant combination of: Ability to learn and apply craft techniques, processes, and principles; ability to use independent judgment in planning sequence of operations and in selecting proper tools and materials; ability to assume responsibility for attainment of prescribed qualitative standards; ability to apply shop mathematics to practical problems, such as computing dimensions and locating reference points from specifications data when laying out work; spatial perception to visualize arrangement and relationships of static or moving parts and assemblies represented in blueprints and diagrams; form perception as required in such activities as inspecting finished work to verify acceptability of surface finish; and some combination of finger and manual dexterity and eye-hand coordination to use handtools and manually controlled power tools when executing work to close tolerance.

Clues for Relating Applicants and Requirements

Hobbies, such as model building or ceramics, which involve hand craftsmanship.
Successful completion of high school industrial arts or vocational education courses.
Military training and experience in craft-related activities.
Preference for work activities offering tangible productive satisfaction.

Training and Methods of Entry

Apprenticeships providing 2 to 6 years of on-the-job training and trade instruction are generally accepted as the best methods of entry into craft work. Many firms have established on-the-job training programs in which entry workers are placed under the

Continued,pg.2.

supervision of a journeyman or a foreman and are advanced from elementary tasks to progressively more difficult work as they demonstrate increased proficiency in the skills of the craft. Training received in vocational, trade, or technical schools or the armed services enhance entry and advancement prospects, and may shorten training periods in some crafts. Craftsmen who become thoroughly familiar with all aspects of their trade through apprenticeship training generally stand the best chance for advancement to supervisory positions.

JOBS REPORTED:

(Page 312.)

Lineman
Carpenter
Maintenance Man
Pipe Fitter
Sewing Machine Operator
Spindle Carver

HANDLING

.887

Work Performed

Work activities in this group primarily involve performing routine, nonmachine tasks involving little or no latitude for judgment. Adherence to rigid standards or specifications is not involved.

Worker Requirements

An occupationally significant combination of: Physical stamina; an inclination toward routine, repetitive activities; some dexterity with the fingers and hands; eye-hand coordination; form perception; and the ability and willingness to follow instructions.

Clues for Relating Applicants and Requirements

Good physical condition.
Undistinguished scholastic record.
Expressed preference for "outside" or factory work.

Training and Methods of Entry

The work is usually so elemental in nature that no previous training is required, and entry workers generally receive only a short demonstration or explanation of the tasks involved. The most important hiring factor is the ability of the applicant to meet the strength requirements which range from light to very heavy according to the job. Personal characteristics very often play a significant part. An employer usually will have much latitude in engaging people because of the nature of the work and the fact that many applicants can qualify for it. He frequently will be influenced by an applicant's record of reliability, honesty, and industriousness. These factors are also taken into consideration when it is decided who will receive training in more complex work and who will be promoted.

JOBS REPORTED:

Porter/Charwoman/Cleaner
Assembler, Production
Electrician, Helper
Foundry Worker
Glueman
Handcutter/Spreader
Laborer, General
Laborer, Stores
Machine Helper
Masker
Packager, Hand
Painters, Helper
Stock Preparation Clerk

DRIVING--OPERATING

.883

Work Performed

Work activities in this group primarily involve starting, stopping, and moving the controls of machines which must be steered or guided in order to fabricate, process, and/or move materials and products. The work is occasionally performed at the given signals of others. Typical machines are farm tractors, trucks, hoisting machines, and charging machines which pave roads, transport people or materials, hoist building supplies, and charge ore into furnaces.

Worker Requirements

An occupationally significant combination of: Spatial discrimination; eye-hand-foot coordination; manual dexterity, a preference for working with machines and equipment; the ability to follow instructions; and facility in adapting to routine, repetitive work.

Clues for Relating Applicants and Requirements

Considerable driving experience
Military experience driving truck or farm machines.

Training and Methods of Entry

Entry into these activities is usually by interest and possession of necessary physical abilities. Casual work experience and other types of exposure to situations involving moving machines can be considered an indication that this might be suitable work. On-the-job training is the usual method by which workers acquire proficiency.

JOBS REPORTED:

Truck Driver - Heavy
Delivery Man
Industrial - Truck Operator
Truck Driver - Light

(Page 444)

TENDING

.885

Work Performed

Work activities in this group primarily involve starting, stopping, and observing the functioning of machines and equipment. Workers are not concerned with setting up machines, but must be alert in changing guides, adjusting timers and temperature gages, turning valves, pushing buttons, flipping switches, and making other minor adjustments.

Worker Requirements

An occupationally significant combination of: An inclination toward working with machinery and equipment; the ability and willingness to learn and follow instructions; ease in adjusting to routine, repetitive work; and capacity for sustained attention to functioning of machines or equipment.

Clues for Relating Applicants and Requirements

Exposure to machine shop courses in high school.
Expressed desire to work around machinery.
Participation in athletics or similar leisure time activities requiring good physical coordination and alertness.
Casual work experience in a shop environment.

Training and Methods of Entry

Preference in hiring will frequently be given to workers with some exposure to machines in a school or work environment. The time required for a worker to become proficient at his job may range from a very short period, such as a few days, all the way up to six months, depending on the complexity of the individual work situation. On-the-job training is the most common method by which workers reach an acceptable level of competence in their jobs.

Machine tenders are often given the opportunity to assume more responsibility for the functioning of machines and advance to jobs as operators.

JOBS REPORTED:

Mixing-Machine Operator
Air Compressor Operator
Refinerman

(Page 447)

SET-UP AND/OR ALL-ROUND MACHINE OPERATING

.280; .380

Work Performed

Work activities in this group primarily involve applying a knowledge of machine capabilities, properties of materials, and shop practices to situations involving the setting up of machines for others to operate and/or the setting up and personal operation of a variety of machines. Typically, workers plan the order of successive operations, and adjust the position of the workpiece or material. Workers must be conversant with mechanical principles and technical data and skilled in the use of precision gages and measuring instruments used to position workpiece, adjust machines, and verify accuracy of machine functions and work produced.

Worker Requirements

An occupationally significant combination of: A preference for working with machines; attention to detail; visual acuity; the ability to comprehend and apply mechanical principles and technical data; facility in basic mathematics; eye-hand coordination; manual and finger dexterity; physical stamina and agility; and the ability to adapt to fluctuating situations.

Clues for Relating Applicants and Requirements

Success in machine shop courses in high school or vocational school.
Expressed preference for working with machines.
Success and interest in mathematics and technical subjects in school.
Vacation or leisure time work experience relating to machines.

Training and Methods of Entry

Apprenticeship programs are generally accepted as the best method of entry into this field. Entry may also be achieved by starting as a helper or machine hand and gradually qualifying to perform progressively more difficult work by demonstrating increasing skill and responsibility. Supervised on-the-job training and technical instruction is also provided by machine manufacturers and machine users, and applicable skills may be acquired by taking courses in mechanical and technical subjects.

JOBS REPORTED:

Machinist
Machine Set Up Operator/Job Setter
Tool & Die Maker Apprentice

.782

Work Performed

Work activities in this group primarily involve setting up, starting, adjusting, watching, and stopping machines and equipment to fabricate or process materials and products. Typically, involvement is with one kind of machine and includes selecting and installing tools and holding devices; observing the functioning of the machine and making necessary adjustments to allow for such variables as temperature changes, flow of materials, and angles of cut; removing materials or products from the machine and verifying their accuracy with measuring devices and gages; and making minor repairs to machines. Specifications, such as blueprints and work orders, are used frequently.

Worker Requirements

An occupationally significant combination of: Ability to understand the functional nature of machines and to visualize the relationship of parts; the ability to perceive differences in shapes, textures, and surfaces; manual and finger dexterity; the ability to coordinate movement of eyes, hands, and feet; and the intelligence to understand and follow written and oral instructions.

Clues for Relating Applicants and Requirements

Good eyesight and overall good physical condition.
Successful completion of machine shop course in high school.
Reading habits, such as an interest in machine trade publications.

Training and Methods of Entry

Apprenticeship programs are common means by which a worker enters this type of work. Experience as a machine tender or helper can also be significant when a worker has demonstrated increasing skill and a willingness to accept responsibility. Supervised on-the-job training and technical instruction are often provided and serve as excellent training for entry into this field and as a promotional pathway.

JOBS REPORTED:

Injection Moulding Machine Operator
Cutter Operator
Drill Press Operator
Offset Pressman
Punch Press Operator

CHILD AND ADULT CARE

.878

Work Performed

Work activities in this group primarily involve assisting individuals who are totally or partially unable to care for themselves. Typical recipients of such care would be children in private homes or institutions and adults confined to hospitals or institutions. Safety, hygiene, and health are the most frequent fields of concern.

Worker Requirements

An occupationally significant combination of: Patience and sympathy for problems of others; the ability to relate to people; stability under pressure; attentiveness and the ability to pay attention to detail; clean personal habits; freedom from communicable diseases; and some degree of manual and finger dexterity and motor coordination.

Clues for Relating Applicants and Requirements

Completion of first aid courses.
Babysitting experience throughout high school.
Experience in medical corps in the Armed Service.
Good medical record.
Volunteer work caring for shut-ins.
Confidence and poise demonstrated in an interview.

Training and Methods of Entry

General acceptance and successful execution of domestic responsibilities and such casual work experience as babysitting serve as good backgrounds for many individuals seeking entry.

Familiarization with basic techniques is required for entry into specialized activities within this group, in particular those having to do with the care of children and elderly or invalid people and first aid work. Most training is in the form of preentry instruction and on-the-job, observational experience.

JOBS REPORTED:

Practical Nurse

(Page 479)

NURSING, X-RAY, AND RELATED SERVICES

.368; .378

Work Performed

Work activities in this group primarily involve caring for the sick and injured and providing nursing services concerned with the prevention of illness and the promotion of good health; utilizing X-ray and other medical-laboratory equipment for diagnostic or therapeutic purposes; and helping persons with muscle, nerve, joint, or bone injuries or diseases to overcome such disabilities through physical exercise, mechanical apparatus, and applications of massage, heat, light, water, or electricity. Most of these activities are performed under the supervision and on the instructions of licensed medical practitioners.

Worker Requirements

An occupationally significant combination of: The desire and ability to learn, absorb, and apply technical training; a facility for relating to people and an interest in their welfare; exactness and precision for preparing or administering treatment or medication and keeping charts; ability to perceive differences in anatomical components; finger dexterity and eye-hand coordination; and cleanliness, good health, and freedom from communicable diseases.

Clues for Relating Applicants and Requirements

Success in related technical subjects, such as chemistry.
Medical Corps experience in Army.
First Aid course experience.
Volunteer work administering to the needy for charitable organization.

Training and Methods of Entry

Three types of training programs offer the basic preparation required for professional nursing. Traditional diploma programs are conducted by hospital schools and last three years. The programs leading to a bachelor's degree require four or five years of college study. Associate degree programs exist in a number of junior and community colleges and last approximately two years. All training includes supervised nursing practice. Training programs approved by the Council of Medical Education and Hospitals of the American Medical Association are the most widely accepted courses of study and methods of entry in X-ray technology. These programs are conducted by hospitals or by medical schools affiliated with hospitals.

Most other work activities in this group require schooling or training in each particular specialization in approved schools or hospitals.

JOBS REPORTED:

Radiologic Technologist

(Page 477)

DEMONSTRATION AND SALES WORK

.258; .358; .458

Work Performed

Work activities in this group primarily involve using persuasive techniques to sell and/or demonstrate materials, products, or services, drawing upon some knowledge relevant to items or services sold. Some of these activities occur in retail, wholesale, or similar establishments, while some involve soliciting by telephone, going from door to door, or making appointments and visiting the customer to make sales. Demonstrations are made in many of the selling situations. Some demonstrating situations, however, do not involve making sales.

Worker Requirements

An occupationally significant combination of: Facility with words; ability to become familiar with the objects, materials, or services involved; numerical facility and perception for clerical detail; drive and initiative; diplomacy and tact in dealing with people; and powers of persuasion.

Clues for Relating Applicants and Requirements

Good grooming and attire.
Expressed preference for public-contact work.
Casual sales experience.
Poise and good vocabulary in an interview.

Training and Methods of Entry

Employers will usually require the minimum of a high school education, with many requiring a college background or night school credits. At the college level, courses in business administration, marketing, and related areas will give the individual excellent preparation. Many larger organizations have training programs designed to develop the worker's ability as he learns.

JOBS REPORTED:

Salesman/Saleswoman

(Page 488)

BEAUTICIAN AND BARBERING SERVICES

.271; .371

Work Performed

Work activities in this group primarily involve providing customers with a variety of personal services related to their physical appearance. Beautician services include giving permanent waves, cutting, styling, shampooing, setting, and dyeing hair; giving manicures and scalp, facial, and body treatments; providing makeup analyses; removing superfluous hair; and dressing wigs. Besides cutting hair, barbering services include giving shaves, hair and scalp treatments, shampoos, facial massages, and fitting hair pieces.

Worker Requirements

An occupationally significant combination of: The ability to understand, learn, and apply various techniques of cosmetology and barbering; a creative flair for originating or adapting styles to suit individual customers; the ability to relate to people at all levels; the ability to perceive slight differences in color and in forms; eye-hand coordination; and finger dexterity.

Clues for Relating Applicants and Requirements

Training in vocational school.
Preference for working with people.
Willingness to work in a service capacity and wear a uniform.
Adeptness at fixing hair of female members of family.

Training and Methods of Entry

Barber training is offered in many public vocational schools and private barber colleges. Courses may be up to a year in length and include supervised practice. Almost every state requires licensing or certification by a state board, which is granted after successful completion of an examination. Many states have licensed apprenticeship programs. A beginner usually obtains his first position by being recommended to an employer by the school where he received his training, by the efforts of a barber's union, or through personal contacts.

The situation for a worker wishing to enter the field of cosmetology is similar to that which exists for barbering services. Licensing requirements vary from state to state, but a majority insist on graduation from some accredited school of cosmetology or completion of formal work in beauty culture.

JOBS REPORTED:

Barber

MISCELLANEOUS CUSTOMER SERVICE WORK

.863; .864; .865; .867; .873; .874; .877

Work Performed

Work activities in this group primarily involve providing customers with requested services or products through the use of body members, handtools, or equipment.

Worker Requirements

An occupationally significant combination of: Courtesy and tact in dealing with people; manual and finger dexterity and eye-hand coordination; and physical stamina.

Clues for Relating Applicants and Requirements

Casual work experience in a gas station after school.
Familiarity with amusement park devices.
Preference for dealing with the public.
Good physical condition.

Training and Methods of Entry

There can be no established program for training and entry into this work. Personal characteristics and dependability are probably the most significant points an employer will look for in a potential beginning employee. While there is seldom any formal training program trainees are usually teamed with experienced workers. This period of training may range from several days through a few months.

JOBS REPORTED:

Automobile Service Station Attendant

(Page 503)

MISCELLANEOUS PERSONAL SERVICE WORK
(FOOD SERVING, PORTERING, VALETING, AND RELATED ACTIVITIES)

.868; .878

Work Performed

Work activities in this group primarily involve attending to the personal needs and desires of individuals in regard to their consumption of food and drink in public places, the cleanliness of their clothing, conveyance of their luggage, cleanliness of their surroundings, and similar matters having to do with personal comfort, convenience, and appearance. A majority of these activities require direct contact or close association with the recipient of the service.

Worker Requirements

An occupationally significant combination of: Ability and willingness to take, understand, and follow orders; a courteous and cheerful manner in dealing with the public; facility in adjusting to a routine; manual dexterity; cleanliness and freedom from communicable diseases.

Clues for Relating Applicants and Requirements

Courtesy and pleasant personality.
Casual work experience waiting on tables.
Expressed preference for public-contact work.
Neat and clean personal appearance.

Training and Methods of Entry

Although many people with little formal schooling find it possible to gain entry, many employers prefer people with two or three years of high school. Special courses given by vocational schools, hotel associations, and individual establishments are considered good preparation by most employers. Some establishments hire inexperienced workers and give them a few weeks of on-the-job training. Health certificates are frequently required, especially in the food serving field, to indicate freedom from communicable diseases.

JOBS REPORTED:

Bus Boy/Floor Girl

(Page 507)

USHERING, MESSENGER SERVICE, AND RELATED WORK

.868; .878

Work Performed

Work activities in this group primarily involve taking tickets, issuing programs, and escorting people to their seats in public places; assisting or escorting people into and out of buildings, conveyances, or facilities; running errands; and receiving and delivering messages.

Worker Requirements

An occupationally significant combination of: The ability and willingness to follow instructions; an affinity for dealing with people; an inclination toward work of a routine, repetitive nature; willingness to wear a uniform; and physical stamina.

Clues for Relating Applicants and Requirements

Courteous manner in an interview.
Expressed desire for public-contact work.
Good physical condition and good grooming.
Experience ushering at high school football games.

Training and Methods of Entry

Most employers prefer individuals with some high school education. Personal characteristics, particularly the ability to get along with people, are important factors. People who have shown through casual work experience, high school education, or extra-curricular activities that they are patient, attentive, and dependable rate as good risks. The time spent in training usually is quite short, and an individual frequently is expected to function in an efficient manner after a short demonstration or limited breaking-in period.

JOBS REPORTED:

Messenger

(Page 509)

B. Civil Service

In the following pages, jobs in civil service, grouped according to worker traits, are analyzed in terms of the work performed, worker requirements, clues for relating applicants and requirements and training and methods of entry. Dictionary of Occupational Titles reference numbers are cited below the job identification at the top of the page. At the bottom of the page, the jobs in this general area of work are listed.

ROUTINE CHECKING AND RECORDING

.588; .688

Work Performed

Work activities in this group primarily involve checking, entering, and posting verbal and numerical data on stock lists, ledgers, registers, and similar standardized record forms, and performing related routine clerical duties.

Worker Requirements

An occupationally significant combination of: Common sense to learn and follow routine clerical procedures; verbal ability and clerical aptitude to keep accurate and legible records and to perform such tasks as sorting bills, receipts, and invoices; temperament to perform repetitive work requiring constant and close attention to clerical details; and numerical ability to perform simple arithmetic when required.

Clues for Relating Applicants and Requirements

Experience in any activity involving elemental record keeping.
Preference for routine, organized work situation.
Legible handwriting.
Neat appearance and apparent predisposition toward orderliness.

Training and Methods of Entry

High school courses, such as bookkeeping and typing, generally provide familiarity with elementary clerical skills, and up to three months on-the-job experience is usually sufficient to familiarize entry workers with clerical procedures and forms used in specific establishments.

JOBS REPORTED:

Clerk, General/Copy holder

(Page 289)

SORTING, INSPECTING, MEASURING, AND RELATED WORK

.484; .485; .487; .584; .585; .587; .683; .684; .685; .687

Work Performed

Work activities in this group primarily involve examining, measuring, or weighing objects or materials for the purpose of grading, sorting, detecting flaws or irregularities, or verifying adherence to specifications. The work frequently is performed under close supervision, and the use of gages, calipers, micrometers, and other measuring devices or equipment, as well as the primary senses, is often involved.

Worker Requirements

An occupationally significant combination of: The ability and willingness to follow instructions to the letter; spatial and form perception to perceive differences in tangible matter; accuracy and attention to detail; finger and manual dexterity; eye-hand coordination; and disposition toward work of a routine, repetitive, and noncreative nature.

Clues for Relating Applicants and Requirements

School shop courses indicating success in working to tolerances.
Willingness to fit into a routine.
Casual work experience sorting stock at inventory time in local plant.

Training and Methods of Entry

Workers generally learn the fundamentals of their jobs during a brief period of on-the-job training, which may range from a few hours to several months, depending on the skill required. Many employers prefer workers with no previous experience. They look for applicants who are physically able, dependable, have good eyesight, and can follow instructions. Many of the larger employers give aptitude tests in selecting new employees.

JOBS REPORTED:

Chainman

(Page 282)

COMPUTING AND RELATED RECORDING

.388; .488

Work Performed

Work activities in this group primarily involve performing arithmetic computations and preparing numerical records with the aid of typewriters and adding, billing, bookkeeping, and calculating machines. Typical activities are computing wages, interest, and production costs; totaling bank deposit slips; and verifying computations recorded in accounts.

Worker Requirements

An occupationally significant combination of: Intellectual capacity and interest sufficient to acquire an understanding of systematic, numerical, recordkeeping and data-gathering procedures; ability to apply arithmetic principles and correct computational errors; attention to detail to avoid clerical errors; form perception; eye-hand coordination; and finger and manual dexterity.

Clues for Relating Applicants and Requirements

Expressed preference for clerical work.
Good grades in arithmetic and pertinent clerical subjects in school.

Training and Methods of Entry

Graduation from high school and business school with average or superior grades in arithmetic frequently is the minimum requirement for entry into this type of work.

For some kinds of work, specialized training on a particular machine is required. For many beginning positions, however, a general knowledge of the work and equipment involved usually is regarded as sufficient preparation. Often an employer will give a new employee instruction and on-the-job training, ranging anywhere from a few days to several months, depending chiefly on the type of work or the kind of machine involved.

JOBS REPORTED:

Timekeeper

(Page 280)

STENOGRAPHIC AND RELATED WORK

.388

Work Performed

Work activities in this group primarily involve taking shorthand by hand or machine and transcribing it with a typewriter.

Worker Requirements

An occupationally significant combination of: The ability to understand the meaning and relationships of words and sentences; finger dexterity and eye-hand coordination for taking dictation or typing; form perception to recognize shorthand symbols; adaptability to routine, repetitive, and uninvolved tasks; attention to detail in dictation or typed materials to avoid error; willingness to work according to instructions; ability to work with specialized terminology, such as that in the medical, legal, or engineering fields.

Clues for Relating Applicants and Requirements

Completion of typing, shorthand, and other business courses in high school or business school.
Successful performance on clerical aptitude and achievement tests.

Training and Methods of Entry

A majority of workers who enter this field are high school graduates who have received specialized training in typing, shorthand, and business courses in high school or business schools. Passing of typing and shorthand tests usually are required.

JOBS REPORTED:

Stenographer

(Page 278)

TYPESETTING, REPRODUCING, AND RELATED MACHINE WORK

.382; .582

Work Performed

Work activities in this group primarily involve setting up, adjusting, and operating data-processing, typesetting, linotype, duplicating, addressing, and similar commercial machines. The work is usually specialized and workers spend a majority of their time at their machines, functioning accurately and at high speed.

Worker Requirements

An occupationally significant combination of: The ability and willingness to follow instructions in performing work of a routine, organized nature; attention to detail and good reading comprehension in order to avoid clerical errors; form and spatial perception, eye-hand coordination, and finger and manual dexterity for using machines; and an inclination toward working with machines.

Clues for Relating Applicants and Requirements

Commercial courses in high school.
Night school courses in clerical machine operating.
Aptitude test scores that indicate adaptability for this type of work.
Preference for working with machines.

Training and Methods of Entry

Graduation from high school or business school with appropriate commercial coursework is frequently the minimum educational requirement for entry into this type of work. For some kinds of work specialized training on a particular machine is required. For most beginning positions, however, a general knowledge of the kind of equipment used is usually regarded as sufficient preparation. Employers usually give new employees instruction and on-the-job training ranging anywhere from a few days to several months, depending chiefly on the type of machine.

JOBS REPORTED:

Key-Punch Operator

(Page 274)

CLASSIFYING, FILING, AND RELATED WORK

.388

Work Performed

Work activities in this group primarily involve gathering together, classifying, sorting, and/or filing correspondence, account records, business forms, and related data. The preparation of reports and keeping of records is frequently involved.

Worker Requirements

An occupationally significant combination of: Reading comprehension in order to obtain pertinent information, numerical facility for performing arithmetic computations; accuracy and attention to detail for close clerical work; and the ability to follow instructions and established procedures in doing routine work.

Clues for Relating Applicants and Requirements

Successful completion of commercial coursework in high school.
Preference for routine, organized, stable work situation.
Neatness.
Legible handwriting.

Training and Methods of Entry

Graduation from high school with successful completion of commercial courses and demonstrated familiarity with elementary clerical skills will usually qualify an individual for entry into this work. Many employers administer tests designed to show the applicant's suitability for employment of this nature.

A period of on-the-job training ranging up to three months is usually sufficient to familiarize entry workers with clerical procedures and forms used in specific establishments.

JOBS REPORTED:

Clerk-Typist

(Page 276)

MANIPULATING

.884

Work Performed

Work activities in this group primarily involve the dextrous use of hands, handtools, or special devices to work, move, guide, or place objects or materials. There exists some latitude for judgment in selecting the appropriate tools, objects, or materials, and in determining work procedures and conformance to standards, although all these factors are fairly obvious. The work most frequently occurs away from a machine-oriented environment, and is prevalent in such endeavors as bench crafts, structural work, and hunting and fishing.

Worker Requirements

An occupationally significant combination of: Eye-hand coordination; manual and finger dexterity; spatial and form perception; a decided preference for working with the hands; the ability to work within prescribed standards and specifications; and facility in adapting to a routine.

Clues for Relating Applicants and Requirements

Success in craft courses in school.
Hobby of making scale-model boats and airplanes.
Expressed preference for working with the hands.
Hobbies of hunting and fishing.

Training and Methods of Entry

Apprenticeship programs and on-the-job training are the usual means by which a worker becomes familiar with his job. On occasions, experience in a lesser capacity can prepare an applicant for entry into this type of work, provided he has shown diligence and the capacity for more involved tasks.

Individuals with some exposure to disciplines and standardized work methods in a school or related environment will usually be given preference.

JOBS REPORTED:

Automobile Mechanic Helper
Book Repair
Duplicating Machine Operator
Engineering-Equipment-Mechanic Helper
Highway Maintenance Man
Painter Helper, Automobile

COOKING AND RELATED WORK

.281; .381

Work Performed

Work activities in this group primarily involve planning and preparing meals in private homes or in restaurants, hotels, camps, and other places serving large numbers of people.

Worker Requirements

An occupationally significant combination of: Ability to learn the theory and techniques of food preparation; ability to plan menus and to compute quantities and costs to order supplies; form perception to examine food and to prepare food arrangements of displays; finger and manual dexterity to use kitchen tools, appliances, and utensils; willingness to wear a uniform; and good health to pass a strict physical examination and obtain a health card from the health department.

Clues for Relating Applicants and Requirements

Successful completion of high school home economics course.
Cooking or baking contest awards.
Cooking experience in the military service.

Training and Methods of Entry

One method of entry is working in a kitchen under the direction of a fully qualified worker. Cooks in large hotels and restaurants usually are graduates of cooking schools or institutes which require graduation from the eighth grade as an essential prerequisite for enrollment. High school or college home economics graduates can enter this field and become proficient after on-the-job training. Apprenticeships are also available in the metropolitan areas.

JOBS REPORTED:

Cook, Mess

(Page 310)

CRAFTSMANSHIP AND RELATED WORK

.281; .381

Work Performed

Work activities in this group primarily involve fabricating, processing, inspecting, or repairing materials, products, or structural units. Activities in this group are characterized by the emphasis placed upon manual skills, and the application of an organized body of knowledge related to materials, tools and principles associated with various crafts.

Worker Requirements

An occupationally significant combination of: Ability to learn and apply craft techniques, processes, and principles; ability to use independent judgment in planning sequence of operations and in selecting proper tools and materials; ability to assume responsibility for attainment of prescribed qualitative standards; ability to apply shop mathematics to practical problems, such as computing dimensions and locating reference points from specifications data when laying out work; spatial perception to visualize arrangement and relationships of static or moving parts and assemblies represented in blueprints and diagrams; form perception as required in such activities as inspecting finished work to verify acceptability of surface finish; and some combination of finger and manual dexterity and eye-hand coordination to use handtools and manually controlled power tools when executing work to close tolerance.

Clues for Relating Applicants and Requirements

Hobbies, such as model building or ceramics, which involve hand craftsmanship.
Successful completion of high school industrial arts or vocational education courses.
Military training and experience in craft-related activities.
Preference for work activities offering tangible productive satisfaction.

Training and Methods of Entry

Apprenticeships providing 2 to 6 years of on-the-job training and trade instruction are generally accepted as the best methods of entry into craft work. Many firms have established on-the-job training programs in which entry workers are placed under the supervision of a journeyman or a foreman and are advanced from elementary tasks to progressively more difficult work as they demonstrate increased proficiency in the skills of the craft. Training received in vocational, trade, or technical schools or the armed services enhance entry and advancement prospects, and may shorten training periods in some crafts. Craftsmen who become thoroughly familiar with all aspects of their trade through apprenticeship training generally stand the best chance for advancement to supervisory positions.

(Page 312)

JOBS REPORTED:

Job Printer Apprentice
Seamstress, Mender

HANDLING

.887

Work Performed

Work activities in this group primarily involve performing routine, nonmachine tasks involving little or no latitude for judgment. Adherence to rigid standards or specifications is not involved.

Worker Requirements

An occupationally significant combination of: Physical stamina; an inclination toward routine, repetitive activities; some dexterity with the fingers and hands; eye-hand coordination; form perception; and the ability and willingness to follow instructions.

Clues for Relating Applicants and Requirements

Good physical condition.
Undistinguished scholastic record.
Expressed preference for "outside" or factory work.

Training and Methods of Entry

The work is usually so elemental in nature that no previous training is required, and entry workers generally receive only a short demonstration or explanation of the tasks involved. The most important hiring factor is the ability of the applicant to meet the strength requirements which range from light to very heavy according to the job. Personal characteristics very often play a significant part. An employer usually will have much latitude in engaging people because of the nature of the work and the fact that many applicants can qualify for it. He frequently will be influenced by an applicant's record of reliability, honest, and industry. These factors are also taken into consideration when it is decided who will receive training in more complex work and who will be promoted.

JOBS REPORTED:

Cleaner
Cleaner, Laboratory Equipment
Forest-Fire Fighter
Laundry Laborer
Laborer, General
Laborer, Hatchery
Laborer, Landscape
Park Worker

(Page 360)

SIGNALING AND RELATED WORK

.868

Work Performed

Work activities in this group primarily involve giving directional or warning signals to pedestrians and operators of transportation and materials, handling machines and equipment by means of gestures, signs, lights, sounds, and other devices.

Worker Requirements

An occupationally significant combination of: Ability to follow precise instructions; a sense of responsibility for the safety of people and materials; alertness; and the stamina to remain standing for long periods.

Clues for Relating Applicants and Requirements

Lack of interest in intellectual pursuits.
Participation or interest in outdoor activities.
Good health.
Liking for work of an unvarying nature.

Training and Methods of Entry

Short demonstrations and on-the-job training are the usual means by which a person becomes familiar with work of this kind.

JOBS REPORTED:

School Crossing Guard

(Page 354)

TENDING

.885

Work Performed

Work activities in this group primarily involve starting, stopping, and observing the functioning of machines and equipment. Workers are not concerned with setting up machines, but must be alert in changing guides, adjusting timers and temperature gages, turning valves, pushing buttons, flipping switches, and making other minor adjustments.

Worker Requirements

An occupationally significant combination of: An inclination toward working with machinery and equipment; the ability and willingness to learn and follow instructions; ease in adjusting to routine, repetitive work; and capacity for sustained attention to functioning of machines or equipment.

Clues for Relating Applicants and Requirements

Exposure to machine shop courses in high school.
Expressed desire to work around machinery.
Participation in athletics or similar leisure time activities requiring good physical coordination and alertness.
Casual work experience in a shop environment.

Training and Methods of Entry

Preference in hiring will frequently be given to workers with some exposure to machines in a school or work environment. The time required for a worker to become proficient at his job may range from a very short period, such as a few days, all the way up to six months, depending on the complexity of the individual work situation. On-the-job training is the most common method by which workers reach an acceptable level of competence in their jobs.

Machine tenders are often given the opportunity to assume more responsibility for the functioning of machines and advance to jobs as operators.

JOBS REPORTED:

Bindery Worker

(Page 447)

OPERATING--CONTROLLING

.782

Work Performed

Work activities in this group primarily involve setting up, starting, adjusting, watching, and stopping machines and equipment to fabricate or process materials and products. Typically, involvement is with one kind of machine and includes selecting and installing tools and holding devices; observing the functioning of the machine and making necessary adjustments to allow for such variables as temperature changes, flow of materials, and angles of cut; removing materials or products from the machine and verifying their accuracy with measuring devices and gages; and making minor repairs to machines. Specifications, such as blueprints and work orders, are used frequently.

Worker Requirements

An occupationally significant combination of: Ability to understand the functional nature of machines and to visualize the relationship of parts; the ability to perceive differences in shapes, textures, and surfaces; manual and finger dexterity; the ability to coordinate movement of eyes, hands, and feet; and the intelligence to understand and follow written and oral instructions.

Clues for Relating Applicants and Requirements

Good eyesight and overall good physical condition.
Successful completion of machine shop course in high school.
Reading habits, such as an interest in machine trade publications.

Training and Methods of Entry

Apprenticeship programs are common means by which a worker enters this type of work. Experience as a machine tender or helper can also be significant when a worker has demonstrated increasing skill and a willingness to accept responsibility. Supervised on-the-job training and technical instruction are often provided and serve as excellent training for entry into this field and as a promotional pathway.

JOBS REPORTED:

Tabulating-Machine Operator

(Page 435)

CHILD AND ADULT CARE

.878

Work Performed

Work activities in this group primarily involve assisting individuals who are totally or partially unable to care for themselves. Typical recipients of such care would be children in private homes or institutions and adults confined to hospitals or institutions. Safety, hygiene, and health are the most frequent fields of concern.

Worker Requirements

An occupationally significant combination of: Patience and sympathy for problems of others; the ability to relate to people; stability under pressure; attentiveness and the ability to pay attention to detail; clean personal habits; freedom from communicable diseases; and some degree of manual and finger dexterity and motor coordination.

Clues for Relating Applicants and Requirements

Completion of first aid courses.
Babysitting experience throughout high school.
Experience in medical corps in the Armed Service.
Volunteer work caring for shut-ins.
Good medical record.
Confidence and poise demonstrated in an interview.

Training and Methods of Entry

General acceptance and successful execution of domestic responsibilities and such casual work experience as babysitting serve as good backgrounds for many individuals seeking entry.

Familiarization with basic techniques is required for entry into specialized activities within this group, in particular, those having to do with the care of children and elderly or invalid people and first aid work. Most training is in the form of preentry instruction and on-the-job, observational experience.

JOBS REPORTED:

Child Care, Attendant, School
Psychiatric Aid

(Page 479)

USHERING, MESSENGER SERVICE, AND RELATED WORK

.868; .878

Work Performed

Work activities in this group primarily involve taking tickets, issuing programs, and escorting people to their seats in public places; assisting or escorting people into and out of buildings, conveyances, or facilities; running errands; and receiving and delivering messages.

Worker Requirements

An occupationally significant combination of: The ability and willingness to follow instructions; an affinity for dealing with people; an inclination toward work of a routine, repetitive nature; willingness to wear a uniform; and physical stamina.

Clues for Relating Applicants and Requirements

Courteous manner in an interview.
Expressed desire for public-contact work.
Good physical condition and good grooming.
Experience ushering at high school football games.

Training and Methods of Entry

Most employers prefer individuals with some high school education. Personal characteristics, particularly the ability to get along with people, are important factors. People who have shown through casual work experience, high school education, or extracurricular activities that they are patient, attentive, and dependable rate as good risks. The time spent in training usually is quite short, and an individual frequently is expected to function in an efficient manner after a short demonstration or limited breaking-in period.

JOBS REPORTED:

Messenger (Clerical)

(Page 509)

MISCELLANEOUS PERSONAL SERVICE WORK
(FOOD SERVING, PORTERING, VALETING, AND RELATED ACTIVITIES)

.868; .878

Work Performed

Work activities in this group primarily involve attending to the personal needs and desires of individuals in regard to their consumption of food and drink in public places, the cleanliness of their clothing, conveyance of their luggage, cleanliness of their surroundings, and similar matters having to do with personal comfort, convenience, and appearance. A majority of these activities require direct contact or close association with the recipient of the service.

Worker Requirements

An occupationally significant combination of: Ability and willingness to take, understand, and follow orders; a courteous and cheerful manner in dealing with the public; facility in adjusting to a routine; manual dexterity; cleanliness and freedom from communicable diseases.

Clues for Relating Applicants and Requirements

Courtesy and pleasant personality.
Casual work experience waiting on tables.
Expressed preference for public-contact work.
Willingness to wear a uniform.
Neat and clean personal appearance.

Training and Methods of Entry

Although many people with little formal schooling find it possible to gain entry, many employers prefer people with two or three years of high school. Special courses given by vocational schools, hotel associations, and individual establishments are considered good preparation by most employers. Some establishments hire inexperienced workers and give them a few weeks of on-the-job training. Health certificates are frequently required, especially in the food-serving field, to indicate freedom from communicable diseases.

JOBS REPORTED:

Elevator Operator
Parking Lot Attendant

(Page 507)

ARTISTIC RESTORATION, DECORATION, AND RELATED WORK

.281; .381

Work Performed

Work activities in this group primarily involve arranging, decorating, restoring, fashioning, or similarly working objects and materials to produce an acceptable artistic effect, product, or other result. Performance of these activities is predicated upon the ability to apply and adapt the techniques and methodology of a specific field, such as art, history, architecture, and taxidermy.

Worker Requirements

An occupationally significant combination of: The ability to learn the subject matter principles and techniques of a specialty; spatial perception to visualize three-dimensional forms and arrangements; visual acuity to observe differences in such qualities as form, color, or texture; finger dexterity, motor coordination, and manual dexterity; and accuracy in working to detailed specifications.

Clues for Relating Applicants and Requirements

Hobbies pursued, such as model airplane building, fancy needlework, or refinishing furniture.

Training and Methods of Entry

Vocational training as provided by vocational schools and some high schools is probably the best background for entry into this work. By virtue of their very nature, many of the activities included herein are quite specialized, and individual on-the-job training for any length of time running from 1 to 4 years is the usual method by which a worker acquires competence.

JOBS REPORTED:

Archeological Assistant

INTERVIEWING, INFORMATION-GIVING, AND RELATED WORK (VOCATIONAL, EDUCATIONAL, AND RELATED ACTIVITIES)

.168; .268

Work Performed

Work activities in this group primarily involve interviewing individuals in order to gather pertinent information and evaluate the information and/or the individual's qualifications for a variety of considerations; and dispensing information usually relative to the correct interpretation of rules and regulations governing such matters as insurance, education, or housing.

Worker Requirements

An occupationally significant combination of: Verbal facility to converse with people at varied levels; ability to deal tactfully with people to put them at their ease and gain their confidence; numerical ability and clerical perception to avoid errors in recordkeeping and referral to written matter; ability to reason analytically and organize facts when asking and answering questions; and a neat appearance, poise, and composure.

Clues for Relating Applicants and Requirements

Part-time job as information clerk in hotel during summer months.
Expressed preference for public contact work.
Neat appearance, poise, and good verbal expression demonstrated in an interview.

Training and Methods of Entry

A college education is becoming increasingly important for entrance into work of this nature. Courses in personnel management, business administration, liberal arts, applied psychology, and sociology frequently will enable the applicant to obtain successful employment. Often, however, companies will fill positions by offering on-the-job training to personnel already employed who are familiar with company procedures.

JOBS REPORTED:

Survey Worker

GUIDANCE AND COUNSELING

.108; .208

Work Performed

Work activities in this group primarily involve guiding and/or counseling individuals or groups in the solution of occupational, educational, personal, or social problems. Typical situations would be assisting prison parolees in gaining employment and adjusting to society; counseling high school students about college admission requirements and curricula; counseling unhappy or frustrated workers or jobseekers into more fulfilling work; and assisting troubled individuals or families toward normal social adjustment and development.

Worker Requirements

An occupationally significant combination of: Sympathetic attitude toward the welfare of others; capabity to absorb training and apply knowledge to the solution of diverse problems; verbal facility to relate to people at all levels; organizational ability in order to plan and direct guidance programs; tact, poise, and general demeanor that tend to inspire confidence and esteem.

Clues for Relating Applicants and Requirements

Volunteer welfare work for local church group.
Expressed preference for public contact work.
Membership in school debating club.
Successful academic record in pertinent courses, such as psychology or education.
Poise and self-confidence exhibited in an interview.
Elective office in school.

Training and Methods of Entry

A college degree is the minimum requirement for entry into this field. In most cases, education beyond the four-year college level is required, varying according to the individual situation.

Most municipal and state governments and private organizations require two years of graduate study from applicants who are interested in pursuing social work as a career.

Openings in school-counseling work are usually available to individuals who have state teaching certificates and special certificates for school counseling. Most states issue counselor certificates only to people with a master's degree or the equivalent in counselor education as well as actual teaching experience.

(cont., p. 296A)

GUIDANCE AND COUNSELING

.108; .208
(continued)

A graduate degree in psychology serves as an excellent qualification for entry into numerous positions, particularly those in industry.

JOBS REPORTED:

Social Worker

(Page 296A)

DRAFTING AND RELATED WORK

.181; .281

Work Performed

Work activities in this group primarily involve the translation of ideas, rough sketches, specifications, and calculations of engineers, architects, and designers into complete and accurate working plans for use in building or manufacturing.

Worker Requirements

An occupationally significant combination of: Ability and interest necessary to understand and apply technical knowledge and theoretical principles involved in drafting, engineering, mathematics, and related fields; ability to visualize spatial relationships, perceive slight differences in visual matter, and work with detail; and finger dexterity.

Clues for Relating Applicants and Requirements

Success in mechanical drawing and shop courses in high school.
Expressed preference for working around mechanical, architectural, or similar objects.
Demonstrated skill in drawing.

Training and Methods of Entry

Graduation from vocational or technical high school is frequently the minimum educational requirement for entry into the fields. Many employers require additional training, such as that received in a technical institute, junior or community college, extension division of a university, correspondence school, or a college offering special 2-year programs. Training also may be obtained through 3- or 4- year apprenticeship programs or through on-the-job programs combined with part-time schooling. Courses include mathematics, physical sciences, mechanical drawing, standard methods of lettering, and tracing.

JOBS REPORTED:

Drafting Clerk

TECHNICAL WORK, SCIENCE AND RELATED FIELDS

.384

Work Performed

Work activities in this group primarily involve applying basic scientific knowledge to the performance of a variety of supporting tasks in a laboratory or similar scientific environment. The tasks are usually performed according to standardized procedures under general or close supervision of scientific personnel.

Worker Requirements

An occupationally significant combination of: The ability to absorb technical information and follow established procedures; verbal facility to learn and use technical terminology; ability to perceive minute differences in forms and compositional characteristics; manual dexterity to handle small or fragile objects; and ability to pay strict attention to detail in work of a closely prescribed and organized nature.

Clues for Relating Applicants and Requirements

Success in high school courses in science.
Participation in school science fairs and exhibits.
Hobbies, such as rock collecting, bird watching, or gardening.
Reading habits and entertainment preferences exhibit an interest in scientifically oriented material.

Training and Methods of Entry

Six months to one year is generally sufficient time to become familiar with the terminology and procedures involved in the various scientific areas. Qualifying academic preparation may be acquired through high school and post-high-school science courses, including those courses providing laboratory practice.

JOBS REPORTED:

Agricultural Aid

INVESTIGATING, PROTECTING, AND RELATED WORK

.168; .268

Work Performed

Work activities in this group primarily involve conducting investigations and examinations designed to determine or insure compliance with statutes, ordinances, and similar regulations affecting the public interest and welfare; and otherwise enforcing laws or regulations designed to protect the citizenry from harm to themselves or their property.

Worker Requirements

An occupationally significant combination of: Capacity to acquire knowledge of laws and regulations and learn investigative procedures and methods; verbal ability to converse with people at varied levels; tact and diplomacy in order to establish rapport with people; ability to perform under stress and maintain equanimity in the face of danger or resistance; organizational ability in order to gather and evaluate facts; and assurance of manner that will gain confidence and respect; and physical stamina.

Clues for Relating Applicants and Requirements

Expressed preference for public-contact work.
Experience as safety-patrol guide after school.
Success in pertinent academic subjects, such as criminology.
Personal reading preferences, such as detective stories and legal biographies.

Training and Methods of Entry

A high school education is a prerequisite for entry into a majority of positions in this group. In some cases, college education is required. The educational requirement depends upon the responsibility of the job. In most instances, individuals are required to pass rigid entrance exams and then undergo intensive formal training followed by a period of on-the-job breaking in under the tutelage of an experienced worker.

JOBS REPORTED:

Patrolman
State Highway Patrolman
Fire Lookout

PROTECTING AND RELATED WORK

.868; .878

Work Performed

Work activities in this group primiarily involve rendering services designed to defend the person, property, or rights of individuals, establishments, or the general public against injury, loss or disturbance resulting from criminal or disorderly acts, unwanted intrusion, accidents, fire, or other hazards.

Worker Requirements

An occupationally significant combination of: The ability to exercise initiative in relating to people and adjusting to fluctuating situations; equanimity in the face of danger or resistance; manual dexterity and motor coordination for using firearms; honesty and dependability; and physical stamina.

Clues for Relating Applicants and Requirements

Participation in police boys' clubs.
Summer lifeguard experience.
Expressed preference for dealing with the public.
Membership in gun clubs.

Training and Methods of Entry

Workers who engage in this work are usually required to undergo rigid training and pass difficult tests before they are deemed qualified. When the protection of property or lives is involved, there is very little room for error, and beginners are usually teamed with experienced workers and given little responsibility until they thoroughly learn the work. Most entry jobs are gained by passing examinations and meeting established criteria which vary from situation to situation. Experience and training in related fields very often serve as bridges for entry. An individual who has been exposed to criminal investigation work can easily find employment opportunities.

JOBS REPORTED:

Guard
Lifeguard
Watchman

SUMMARY OF FINDINGS

Most of the jobs available to students in the La Puente area require either a high school education or vocational training. The combination of the two is the most preferred by employers. Vocational training without high school graduation offers more job opportunities than high school graduation without any vocational training. Most jobs require some high school course work in the area of vocational training. Those jobs requiring none often have requirements such as physical stamina or good motor coordination.

Most of the jobs available in business and industry require an intelligence, verbal and numerical ability level present in only the upper two quartiles of the students at Valley.

The spatial perception of most students at Valley qualifies them for almost all of the jobs in business and industry. Better than half of the jobs are open to the lower fiftieth percentile of the Valley population on the basis of their clerical ability. The requirements for most jobs for manual dexterity, form perception, finger dexterity and motor coordination would keep those in the fiftieth percentile or below from successful employment.

Valley students in the lower fiftieth percentile would qualify for many more of the jobs available in civil service. On the basis of the general intelligence score, they would be accepted in only five positions. On every other ability factor, however, they would qualify for one-half or more of the jobs.

Jobs in the elemental and machine work categories require the least amount of reasoning, language and mathematical development. Jobs in the counseling and guidance, art, business relations, engineering, and investigating and inspection categories require the greatest level of development in these three areas.

Information from the Dictionary of Occupational Titles indicates that most employers provide on-the-job training. Employees are expected to follow oral and written directions, pay close attention to detail, and display diligence and responsibility in their work. Several employers responding to the Business and Industry Job Survey made comments about the kind of attitude they desired in potential employees. The following comments of one employer sums them all up well:

> It would appear that vocational-technical training is more important to potential employees of my company, than is a high school diploma. This is not entirely true, but since we are involved in a manufacturing-distribution business enterprise the type of academic education being absorbed by high school students is of little value in the initial stages of employment here; on-the-job

training, if properly assimilated, can be more advantageous to both employee and employer.

I do believe that "work attitude" has a great deal to do with the success or failure of an employee-employer relationship. Small businesses such as mine are willing to invest much time and effort in the preparation of an employee for productive work, if that employee has been taught over the years to realize that his success depends on the ability of small businessmen to provide him or her with gainful employment.

Too many job-seekers approach me with the attitude of "What kind of benefits can you give me?" or "How much do you pay for as little effort on my part as possible?" They have not been taught how to approach an employer for a job. Rarely does one find an applicant who shows some respect for his potential employer, with an occasional "Yes, sir" or "No, sir" instead of "Yea," or "Naw," and "Who's doin' the hirin'." They should also be taught to show a little enthusiasm about a prospective job, and to express their desire to put all they have into an employment opportunity, and to follow up this desire with performance, especially while the employer is investing time and money in a training period.

We all have to work for someone, and it would behoove us to learn how to do so, well and willingly and, in fact, cheerfully. Of the 350,000 small business in California, 96% have fewer than 20 employees according to the records of the Small Business Administration. Chances are that many a high school drop-out and/or grad will be asking one of us for a job. Please teach him or her what I have expressed as most important. We will teach employees what they have to know about the work involved. Our success depends on how well we do that job. It will be far less frustrating to all concerned if proper work-attitude has been instilled in the minds of all who must work for their livelihood.

TABLES

TABLE I

BUSINESS AND INDUSTRY JOB SURVEY

TABLE I

BUSINESS and INDUSTRY JOB SURVEY

Name of company: ____________________________________

____

Approximate number of employees: ____________________

____

Name and title of person completing this form: ______

____

Phone: _______________________ Extension: ____________

Instructions

You will be asked to respond to one question under eight (8) separate conditions. Please read each APPLICANT DESCRIPTION carefully before responding. Remember each one is different in some way.

To help us expedite our data collection, please return this form within ten days of date on letter.

Form 101

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Male 18 years of age or older without high school diploma without vocational-technical training. No relevant employment history.

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Female 18 years of age or older _without_ high school diploma _without_ vocational-technical training. No relevant employment history.

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Male 18 years of age or older without high school diploma with vocational-technical training. No relevant employment history. (Please indicate type of training required.)

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Female 18 years of age or older without high school diploma with vocational-technical training. No relevant employment history. (Please indicate type of training required.)

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Male 18 years of age or older with high school diploma without vocational-technical training. No relevant employment history.

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Female 18 years of age or older with high school diploma without vocational-technical training. No relevant employment history.

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Male 18 years of age or older with high school diploma with vocational-technical training. No relevant employment history. (Please indicate type of training.)

WHAT ARE THE JOB CATEGORIES FOR WHICH THE FOLLOWING APPLICANT WOULD BE CONSIDERED?

Female 18 years of age or older with high school diploma with vocational-technical training. No relevant employment history. (Please indicate type of training.)

CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT

- **LA PUENTE UNION HIGH SCHOOL DISTRICT**
- 455 N. Glendora Avenue
- La Puente, California 91744
- (213) 968-2114 or 336-6405

LEON EAST
Project Director

March 25, 1968

Dear Sir:

In an attempt to solve the pressing problem in California of the school dropout, the California State Legislature mandated a program designated as the continuation high school. Under the provisions of Title III of the Elementary and Secondary Education Act of 1965 we are attempting to design an instructional program for the continuation student that will ensure graduates of our system of having the knowledges and skills necessary for successful performance in the job world. It is in regard to this student that we are contacting you now.

As a potential employer of our students we are vitally interested in your response to the attached form. We would like to make it clear that we are not asking you to employ our students, or to make any personal commitment in this regard. What we do ask, is for you to take a few moments of your time to help us ensure that our students reach their full employment potential. Your response to our survey will be confidential and used exclusively for research purposes.

It is our sincere wish that the information you can provide us with will aid us in our attempt to prepare our students for their entry into the job world. We want to offer our sincere appreciation to you for taking the time and effort to aid us in our goal.

Sincerely,

LEON EAST
PROJECT DIRECTOR

By Marylyn A. Dolan
Research Associate

MAD:js

P.S. Please call us at (213) 968-3791 regarding any questions or suggestions you might have.

TABLE II

ENTRY LEVEL JOBS
CIVIL SERVICE

1. Letter
2. Extracted Specifications

CONTINUATION EDUCATION SYSTEM DEVELOPMENT PROJECT

- **LA PUENTE UNION HIGH SCHOOL DISTRICT**
- 455 N. Glendora Avenue
- La Puente, California 91744
- (213) 968-2114 or 336-6405

LEON EAST
Project Director

TABLE II, 1

April 11, 1968

State Personnel Board
801 Capital Mall
Sacramento, California 95814

Dear Sirs:

In an attempt to solve the pressing problem in California of the high school dropout, the California State Legislature mandated a program designated as the continuation high school. Under the provisions of Title III of the Elementary and Secondary Education Act of 1965, our project will design an instructional program that will insure graduates of our system of having the skills and knowledges necessary for successful performance in the job world.

As part of our Needs Assessment Survey, the research team is in the process of collecting position specifications for trainee and entry level jobs in business, industry and civil service. It is in this regard that we are contacting you at this time.

From the Trainee and Entry - Level Job Classification in California State Civil Service Bulletin (compiled by the Examining Standards Division, April 1966), we have extracted the attached list of specific job titles for which we would like copies of position specifications.

It is our hope that the information you can provide us with will help us in our attempt to prepare our students for their entry into the job world. We want to offer our appreciation to you for taking the time and effort to aid us in our goal.

Sincerely yours,

LEON EAST
PROJECT DIRECTOR

By Marylyn A. Dolan
Research Associate

MAD:bls

EXTRACTED SPECIFICATIONS

ENTRY LEVEL JOBS

CIVIL SERVICE

Class Title	Section Number
Archeological Aid (Seasonal)	Section 2
Asphalt Ironer and Raker (Casual Employment)	Section 1
Cook I	Section 2
Assistant Seamstress	Section 3
Attendant, Resident Schools	Section 2
Bindery Assistant	Section 1
Book Repairer	Section 2
Car Washer	Section 1
Copyholder	Section 2
Dispatcher-Clerk	Section 3
Drafting Aid I	Section 3
Duplicating Machine Operator I	Section 2
Elevator Operator	Section 1
Employment Community Worker	Section 3
Engineering Aid I	Section 2
Exposition Assistant I	Section 1
Fish and Wildlife Seasonal Aid	Section 1
Food Service Assistant I	Section 2
Forest Fire Lookout	Section 2
Forest Firefighter (Seasonal)	Section 1
Garage Attendant	Section 3

Class Title	Section Number
Harbor Policeman	Section 2
Heavy Equipment Mechanic Apprentice	Section 2
Highway Equipment Painter Helper	Section 3
Highway Landscape Maintenance Man	Section 3
Highway Maintenance Man I	Section 3
Clerk I	Section 2
Stenographer I	Section 3
Clerk Typist I	Section 2
Key Data Operator Trainee	Section 2
Laboratory Assistant I	Section 2
Laborer	Section 1
Laundry Assistant	Section 1
Lifeguard	Section 3
Lifeguard (Seasonal)	Section 3
Mechanic's Helper	Section 3
Museum Guard	Section 2
Park Aid (Seasonal)	Section 2
Pedestrian Crossing Guard	Section 1
Printing Apprentice	Section 3
Psychiatric Technician Trainee	Section 2
Seasonal Agricultural Aid	Section 1

Class Title	Section Number
State Policeman	Section 2
State Traffic Officer	Section 2
Survey Interviewer	Section 2
Tabulating Machine Operator Trainee	Section 2
Watchman	Section 1

TABLE III

DATA REDUCTION FORM
DOT QUALIFICATIONS PROFILE

TABLE III

DATA REDUCTION FORM
DOT QUALIFICATIONS PROFILE

DOT Code Number: ______________

Job Classification Title: ______________

GED:

SVP:

Apt: GVN SPQ KFM EC

Int:

Temp:

Phys. Dem:

DOT Code Number: ______________

Job Classification Title: ______________

GED:

SVP:

Apt: GVN SPQ KFM EC

Int:

Temp:

Phys: Dem: